INSTITUTIONAL DEFERRED MAINTENANCE PLANS

NOTE REGARDING CALCULATION DIFFERENCES

In May 2007, the institutions' facilities officers submitted building condition surveys for all facilities with 25% or more education and general (E&G) space. The survey, completed every three years, is intended to update condition codes reported to the CHE Management Information System (CHEMIS) for use in responding to executive and legislative requests on deferred maintenance and for use in scoring and prioritizing requests for capital improvement bonds (CIBs). The surveys require an extensive amount of time and work on the part of the facilities officers as the surveys report renovations, repairs, and maintenance that have been completed or issues that have been deferred due to funding shortfalls or other issues.

Concurrently with completing the surveys, the facilities officers developed parameters for submitting deferred maintenance plans under the Commission's August 2006 recommendations for improving the higher education facilities approval process. The calculation methodology used to determine the amount of funds needed to maintain existing facilities and to eliminate deferred maintenance incorporates the building condition codes. Initially, the calculations were to include fall 2006 data as that was the last information reported to CHEMIS. However, several facilities officers noted significant differences in the 2006 data compared to the condition surveys they were completing. At their request, CHE staff updated the information to incorporate the condition survey results so that the deferred maintenance plans (to be submitted for the first time in August 2007) would reflect the most recent evaluation of campus facilities.

Consequently, CHE did not have the necessary time to review the building condition surveys to ensure consistent reporting. After resolving a few similar issues, CHE, with the assistance of the facilities officers revised some of the condition codes. The revisions did not result in significant changes to the overall amount needed to maintain existing facilities and to eliminate deferred maintenance. ***However, it should be noted that there might be differences between the deferred maintenance plan narratives and the calculations completed by CHE.***

CLEMSON UNIVERSITY
PLAN TO ADDRESS DEFERRED MAINTENANCE (DM)

Date of Report: August 2, 2007

Key Elements

1. General Information:

- Contact Person: Bob Wells, Chief Facilities Officer, email: rjwells@clemson.edu
- Years Covered: FY 2007-08 through FY 2027-28 (20 years)

2. Amount Needed per Year (see attached 2007 CHE Worksheet):

- **$21,484,503 ($16,101,443 Capital Renewal + $5,383,060 Deferred Maintenance)**

Clemson University annually commits approximately $4.5M to Deferred Maintenance projects through its Maintenance Repair & Renovation process. Approximately another $5M per year on average is committed to capital renewal through major renovation and departmental projects leaving an average annual deficit of nearly $12M. This deficit needs to be addressed through a State Capital Bond bill or other external fund source.

3. Major Functions of Facilities Addressed in Plan:

- Academic
- Research
- Administration
- Library
- Student Services

4. External Influences Impacting Plan:

- Number of Buildings (58 buildings > 10,000 GSF, 62 buildings < 10,000 GSF)
- Age of Buildings (67% of buildings > 10,000 GSF are over 33 years old. Represent 62% of replacement value for all buildings > 10,000 GSF)
- Historic Buildings
- Regulatory Issues
- Absence of State Capital Bond Bill

The absence of a State Capital Bond Bill since FY 2000 with funding for DM projects has forced the institution to dedicate the majority of internal capital funds to indoor air quality issues, regulatory compliance, building new facilities, or expanding existing facilities to meet the needs of the Academic Road Map thus deferring capital renewal. Without state capital bond bill funding, the age of many of our major buildings coupled with their historic designation makes the cost of capital renewal often untenable.

Clemson University Historic District I includes eight historic resources (four academic buildings, a recreational building, a post office, a marching and athletic field, and a park) located on the northern portion

of the campus. It is significant for its association with the founding, development, and growth of Clemson University, which has played a major role in higher education in South Carolina since its founding in 1889. The district is also significant as an intact collection of late nineteenth and early twentieth century educational buildings at a state-supported land-grant college. Properties in the district include: Tillman Hall (1893), Godfey Hall (1898), Bowman Field (1900), Sikes Hall (1905), Holtendorff Hall (1916), Trustees' Park (c.1925), Long Hall (1937), and Mell Hall (1939). Styles include Renaissance Revival and Classical Revival. Tillman Hall was designed by architects Bruce and Morgan from Atlanta, Ga. Sikes Hall, Holtzendorf Hall, and Long Hall were designed by Rudolph E. Lee, a Clemson graduate and chair of the Department of Architecture.

Clemson University Historic District II includes seven historic resources (three academic buildings, a residence and associated office, and an outdoor theater) located on the Clemson University Campus. It is significant for its association with the Calhoun and Clemson families and for its association with the founding, development, and growth of Clemson University, which has played a major role in higher education in South Carolina since its founding in 1889. The district is also significant as an intact collection of late nineteenth century and early twentieth century educational buildings at a state-supported land grant university. Contributing properties include: Fort Hill (c.1830), John C. Calhoun Office (c. 1825), Hardin Hall (1890), Trustee House (1904), Riggs Hall (1927), Sirrine Hall (1938), and Outdoor Theater (1940). Styles include Renaissance Revival, Queen Anne, and Art Deco. Riggs Hall and Sirrine Hall were designed by Rudolph E. Lee, a Clemson graduate and chair of the Department of Architecture.

Thus new facilities and/or expansions compete more favorably for the limited internal capital funds as well as gifts. Regular biennial capital bond bills that fund significant amounts of capital renewal are essential to good stewardship of the state's higher education E&G inventory.

Clemson University is also somewhat unique in that we operate both a Central Energy Facility (CEF) for chilled water and steam and a Wastewater Treatment Plant (WWTP). Regulatory creep for coal boiler stack emissions in the CEF as well as effluent discharge from the WWTP continues to divert significant internal capital funding from addressing DM. Two recent regulatory projects currently under construction cost $4.4M.

5. Buildings with Condition Code of 50 or Below:

Four major academic buildings scored 50 or below in the most recent building condition assessment. These included Newman Hall, Holtzendorf Hall, Jordan Hall, and Hunter Hall. The remaining buildings at or below 50 are valued under $1M or are support structures such as the CEF and the WWTP.

Newman Hall, built in 1955, has been extensively evaluated for renovation and the current thinking is to replace Newman with a new building or buildings elsewhere on campus and demolish Newman once the new building(s) are occupied. The first phase of a replacement building for Newman is currently in design with construction during the next calendar year.

Holtzendorf, built in 1916, is in Historic District I. Over $1M was spent in 2002 to re-roof, paint and seal the exterior of Holtzendorf to help preserve it while minor functional interior renovations are executed in response to evolving teaching methods. Moisture intrusion is still an issue in the basement level. Holtzendorf does not have an elevator accessing all levels and is in need of a complete renovation of the interior including some foundation work. Due to the historic nature of the building and the commensurate premium in costs to renovate, Holtzendorf is not in the current CPIP and, unless supported by state bond bill funding or a major donor, will continue to have major deferred maintenance for the next 10 years.

Jordan Hall, built in 1977, is a major laboratory and classroom building. Small lab upgrades and lab exhaust renovations in the last 5 years have bought some time until the recently approved BioScience/Life Sciences Building can be completed. The opening of the BioScience building will trigger a domino effect allowing Long Hall followed by Jordan to be renovated assuming funding is available. Long Hall, with a building condition code above 50, is functionally inadequate for its current use. The Long Hall renovation is in the current CPIP for 2009/10 with Jordan Hall falling just outside the current CPIP planning horizon.

Hunter Hall, opened in 1986, is a major laboratory building for Chemistry containing nearly two thirds of the entire campus inventory of research fume hoods and teaching hoods. Due to the age of the HVAC system coupled with an increase in number of fume hoods to support expanding research grants, Hunter Hall requires an extensive HVAC renovation and upgrade.

6. Life Safety/Compliance/ADA Issues:

A significant number of our pre-1985 major E&G facilities that have not undergone a major renovation have indoor air quality issues and consequently these buildings are our highest priority for available HVAC renovation funds second only to exterior envelope deficiencies. Most of these buildings do not have a system which provides conditioned outside air and are therefore substandard compared to the current ASHRAE code. Since FY 2000/01 we have completed $8.4M in HVAC upgrade projects, have $6.25M under construction, and $4.3M looking for funding during this current fiscal year. We still have a backlog of HVAC upgrade projects exceeding $60M. Although we have completed mandated ADA projects, several of our major multi-story academic facilities do not have ADA compliant passenger elevators. In the last 7 years we have added ADA compliant elevators to Daniel Hall, Lee Hall, Lowry Hall, Sirrine Hall, and the Poole Ag Building. Major elevator upgrades are currently ongoing in Edwards Hall and the Cooper Library. As noted in Key Element #4 above, we are currently in construction on $4.4M worth of DHEC regulatory projects in response to more stringent mandatory boiler emissions and wastewater discharge requirements that go into effect next calendar year.

7. Estimating Replacement Cost for External Infrastructure:

Providing an estimate for the replacement cost of external infrastructure and the estimated cost to bring the external infrastructure to like-new condition have been postponed until next year's plan. Clemson University has a significant amount of external infrastructure including roads/hardscape/lighting to extensive overhead and underground utilities including an extensive aging tunnel system. In addition to hiring a consultant this fiscal year to benchmark Clemson's plant against other similar institutions, Clemson is currently in the midst of a Utilities Master Plan effort with one deliverable that will include an estimate of the major maintenance backlog for our extensive above/below ground electrical distribution system, chilled water and steam piping including tunnel issues. From these efforts we hope to develop both a replacement value and a backlog of major maintenance projects for all external infrastructure. Sanitary and storm sewer along with potable water and roads and grounds will be estimated using measured quantities multiplied by unit prices found in the current estimating manuals. Clemson has no choice but to fund the repair of major utilities as a result of a failure and has dedicated significant funding to repairing our extensive roads and walks.

8. Estimating Cost to Bring External Infrastructure to Like-new Condition:

See response in Key Element #7 above.

9. Top Priorities for the First Year of the Plan with Rationale:

Top priorities are 1) seeking funds for the HVAC upgrades of Kinard Hall and Sikes Hall, 2) developing a priority list for capital renewal projects dedicated to underground utilities and funding at least number one on the list, 3) continuing select laboratory renovations in various buildings at the opportunity presents itself to keep up with the current research coming to campus, 4) completing regulatory projects before deadline for compliance, and 5) continuing efforts to get external funding for major maintenance and renewal projects. These priorities arise from our need to provide the campus constituency a safe environment, respond to the Academic Road Map and research initiatives, avoid regulatory consent orders and fines, and recognizing that the institution must have supplemental external funding meet the annual need identified in Key Element #2 above.

10. Additional Information:

Clemson appreciates CHE's continued commitment in recognizing the importance of minimizing the accumulation of Deferred Maintenance. However, it is equally important that Clemson be able to invest in new facilities where required in response to new research opportunities, program expansions, and address shortages in all classifications of E&G space. In fact, a shortage of space in particular can be a roadblock to effective capital renewal. Clemson is looking to CHE for continued support of our requests for state funding in both of these important areas.

While this plan is titled Institutional Deferred Maintenance Plan, it must be recognized that more than two-thirds of the Total Need identified in the CHE calculation is "capital renewal" instead of "deferred maintenance". Also, since the building condition code (BCC) reflects deficiencies that are upgrades and not renewal or maintenance (ex: lacks an elevator or fire alarm system), the actual deferred maintenance portion of the Total Need may be overstated in some buildings. Finally, the annual Total Need is an average. Major projects that address deferred maintenance and renewal will not fit a comparison to an annual average. For example, if an institution goes through a sudden growth spurt opening a $100M in new buildings in one year, the following year $3.3M in capital renewal will be added to the Total Need. It could be 10 years ($33M in accumulated capital renewal) before large renewal projects are needed for these buildings and hence 10 years or more before such needs could be "postponed" until adequate funding is available. In other words, an institution's progress and success in overcoming deferred maintenance including capital renewal cannot be measured on an annual basis but must be viewed over a significant period of time.

As mentioned briefly above, a very real roadblock to effective capital renewal is the inability to vacate a building during an extensive renewal project. Most institutions are in this situation whereby all available space is fully utilized. Without surge space, major maintenance, upgrades, and renewals must be carefully chosen and tailored to avoid disrupting the primary missions of a university. The results are more numerous projects, more expensive projects, postponement of projects, and re-prioritizing projects based on access rather than need. Integral to an effective plan to address deferred maintenance and capital renewal, is the availability of surge space specifically designed to accommodate temporary relocations of classrooms, offices, and labs during major project-level maintenance.

Attachment: 2007 CHE Worksheet titled: Calculation for E&G Deferred Maintenance Plans

The University of South Carolina
Institutional Deferred Maintenance Plan
Facilities Department

Overview: Attached plan (Tab 1) addresses the deferred maintenance requirements for the Education and General facilities at the University of South Carolina. Tab 2 lists the calculations for USC E&G facilities based on the IRF Report. This list identifies approximately $45M annually of deferred maintenance and utility infrastructure work required to bring our campus to an "acceptable" standard. This value is consistent with the estimated funding our recent ISES report identified as required to bring our facilities to an improved condition level.

Our strategy addresses buildings in critical condition based on utilization, age, and condition, and generates the deferred maintenance projects required to "fix" each facility. The plan establishes approximately $35M annually for facilities and $10M annually for utility systems deferred maintenance.

Currently our maintenance funding allows us to respond to failed systems…little to no preventive maintenance, hence an enormous backlog of deferred maintenance. We currently do not receive annual recurring funding to support capital renewal or to replace our infrastructure. Our operating budget permits us to respond to failures and pay plant costs. Occasionally, we receive one-time, special funding to apply to deferred maintenance, like for instance steam line repairs, but this is far short of the $45M annually identified in various reports. We also have demolished a few facilities. By eliminating old, dilapidated buildings, the overall deferred maintenance backlog is reduced. However, the operating costs are still inadequate to recapitalize the remaining antiquated infrastructure and accomplish the preventive maintenance required to reduce the deferred maintenance.

The following information addresses the ten key elements of the Deferred Maintenance Plan:

1. General Information:
   a. Institution: University of South Carolina – Columbia
   b. Contract Person: Mr. Jim Demarest, Director of Facilities Services

c. Years Covered: 2007-2027
d. Date Submitted: Aug 2007

2. Average Annual Investments Needed:
a. To keep DM for existing E&G facilities from growing: $30,334,003
b. To reduce DM to an acceptable level in 20 years: $45,050,150
c. To address existing external infrastructure needs: $10,000,000

3. Facility Composition: USC E&G facilities include academic, administrative, research laboratories, teaching laboratories, student services, library, central support, and clinical spaces. The average age of USC facilities is about 40 years old. We have a wide range of facilities dating back to the early 1800s to modern construction. Most of our infrastructure is direct buried, beyond its useful life, and in dire need of replacement.

4. External Influences:
a. All projects exceeding $250K require the USC Board of Trustee approval. Projects exceeding $500K must be established as "State" projects and require CHE, JBRC, and Budget & Control Board approval. Any project exceeding $1M and/or significantly modifies the exterior appearance of a facility requires an Architectural Design Review Committee approval.
b. Exterior and interior modifications to properties listed on the National Register of Historic Places are subject to State Historic Preservation Officer approval.
c. Any major renovation requires compliance with current building codes
d. Accrediting bodies, DHEC and AAALAC, have standards beyond the International Building Code that we must comply with for affected facilities.
e. These additional requirements, reviews, and approvals add cost to affected work, and that additional cost is not accounted for in the facility replacement values used to calculate deferred maintenance in this plan.

5. Summary of the major system problems for the 48 USC E&G facilities with scores of 50 or below: About 40% (~$210M) of our deficiencies are associated with HVAC systems. The next greatest deficiency in building systems is interior and finish systems (~$90M), followed by electrical (~$75M). These three major systems account for approximately 70% of our

shortfalls. The remaining 30% of our shortfalls include plumbing, exterior structure, fire/life safety, accessibility, health, site, security systems, and vertical transportation. (This information is based on ISES findings)

Here is a list of the 48 USC E&G facilities with CHEMIS Building Condition Codes below 50.

a. James F. Byrnes Bldg	y. Melton Observatory
b. South Caroliniana Library	z. Currell College
c. UMWWM	aa. Rutledge College
d. Flinn Hall	bb. Currell Annex
e. Harper Elliott College	cc. President's House
f. McCutcheon House	dd. Lieber College
g. Desaussure College	ee. Green House
h. Thornwell Annex	ff. Health Science Bldg
i. Old Observatory	gg. Inventory Central Supply
j. Osborne Admin	hh. Jones Physical Science Center
k. McKissick	ii. Neutron Generator
l. Hamilton College	jj. Long Annex
m. Sloan College	hh. Thomas Cooper Library
n. Barnwell College	ii. Student Health Center
o. 1501 Senate St	jj. Benson
p. 1600 Hampton St	kk. Green House 2
q. 819 Barnwell	ll. 718 Devine St
r. 1731 College St	mm. 1527 Senate St
s. Spigner House	nn. 1600 Hampton St Annex
T: 1716 College St	oo. 1714 College St Annex
u. 1714 College St	pp. President's House Annex
v. LeConte College	qq. Motorpool
w. Petigru College	rr. Grounds Maintenance
x. Davis College	ss. 700 College St

6. <u>Life safety issues, citation and/or warnings, and compliance issues:</u>
   a. We have asbestos and lead based paint in numerous facilities, so the cost of repairs to those facilities includes a premium for remediation and air monitoring. These additional costs are not accounted for in the facility replacement values used to calculate deferred maintenance in this plan

b. Not all of our facilities are ADA accessible and this work is backlogged. We address ADA compliance on a case-by-case basis, or as part of large renovation projects when appropriate. The cost to bring facilities into ADA compliance is not included for in the facility replacement values used to calculate deferred maintenance in this plan.
c. Many of our facilities are grandfathered when new compliance issues are developed. The major compliance issues we have are life safety and environmental (indoor air quality).

7. Process used to estimate the replacement cost for external infrastructure: We still need to quantify this number. We do know that estimated cost to replace steam/condensate lines is $40M. We still need to estimate domestic water distribution and storage; wastewater distribution, storage, and treatment; electrical distribution, substation, switchgear; grounds; and roadways and walkways.

8. Process used to estimate the cost to bring external infrastructure to like-new condition: We still need to quantify this number.

9. USC top six priorities for the first year and rationale:
a. Health Science Building: Replacement of old building systems that are beyond reliable repairs. Plans include both exterior and interior work; roof, exterior windows, HVAC system, electrical system, and domestic piping replacements. Code upgrades for life safety and ADA.
b. Booker T. Washington Auditorium: Work in this facility is again prompted by building systems that are beyond there useful life and creating high levels of critical maintenance work. Plans include window and door replacement around the entire envelop, HVAC system, electrical system and fixture replacement on the interior, plumbing system replacement along with fixtures, auditorium seating replacement, ADA and life safety code compliance.
c. Drayton Hall: This auditorium facility is in dire need of system replacements to include domestic water piping and fixtures, hot water system, exterior doors, roof, and life safety upgrades.
d. Currell College: Replacement of key building systems are necessary for this facility to function as a classroom building. Major replacement components include replace exterior windows, exterior waterproofing, replace plumbing system and fixtures, replace interior lighting, replace

interior ceilings, retrofit HVAC, replace secondary electrical distribution, install fire alarm system, replace emergency generator and emergency lighting.

e. Benson: This facility is in poor condition and in need of the following major system replacements; roof, window and exterior door, HVAC retrofit, interior lighting, plumbing system, secondary electrical system upgrade, along with replacement of interior materials and finishes.

f. Harper/Elliott: This project is in scope similar to our Public Health building, which is the number one facility on this list. Both exterior and interior systems require replacements including environmental issues associated with the facilities HVAC system.

10. Any additional information: Three years ago, an independent company, ISES Corp, accomplished a thorough facility condition analysis on 100 of our 187 facilities…8.7 million square feet. This report identified over $530M in recommended projects for the next 10 years. Three of those years have already passed with little relief. Our facility condition code was 35% worse than the norm across our Nation, which places us in the bottom 15% of overall condition of our facilities. Interestingly, the report recommends an investment of $45M annually in deferred maintenance in order to bring our facilities up to an acceptable level. Along with a large backlog of facility deferred maintenance work, the institution has a large backlog of capital renewal work. This is planned facility replacement work that if left undone, will increase the deferred maintenance backlog. Additionally, the utility infrastructure is in need of critical replacements based on life cycle data and history of service records. Both of these critical areas need both short term and long term assistance, to insure a managed approach to operations as well as a cost effective approach.

MUSC 2007 – 2008 E&G Deferred Maintenance Plan

This plan is formatted to reflect the 10 key elements outlined on page two of the 2007 CHE Institutional Deferred Maintenance Plans for Educational & General Facilities document. (All dollar values are based on year 2007 dollars and the existing State provided facilities replacement values. These dollars are subject to economic inflation.)

1. General Information.
   a. Institution: Medical University of South Carolina
   b. Contact Person: John Malmrose, Chief Facilities Officer
   c. Years Covered in the Plan: 2007 to 2027
   d. Date Submitted: August 2, 2007

2. Average Annual Investments Needed.
   a. To keep DM for existing E&G facilities from growing: $19,233,980
   b. To reduce existing facility DM to an acceptable amount in 20 years: $22,601,947
   c. To Address existing external infrastructure needs of the institution: TBD in 2008.

3. Facility composition.
   a. MUSC facilities include academic, student services, library, museum, central support, administrative, research laboratories, teaching laboratories, and clinical spaces. We have a wide range in age of facilities from historic to modern. Several of our historic buildings and structures are on the National Register of Historic Places.

4. External Influences.
   a. Changes to the exterior of buildings that are visible from a public street are subject to the approval of the City of Charleston Board of Architectural Review.
   b. Exterior and interior changes to properties listed on the National Register of Historic Places are subject to State Historic Preservation Office approval.
   c. The City of Charleston is developing a historic preservation plan that may further impact us.
   d. We must comply with the City of Charleston zoning ordinances which become broader in scope over time.
   e. Accrediting Bodies, DHEC and AAALAC have standards beyond the International Building Code that we must comply with for affected facilities.
   f. These additional requirements, reviews and approvals add cost to affected work, and that additional cost is not accounted for in the facility replacement values which are used to calculate deferred maintenance in this plan.
   g. We work closely with these additional regulating authorities to ensure compliance.

5. Summary by category of the major system problems for the 10 MUSC facilities with scores of 50 or below:
   a. F Building. Historic. Worst Systems: Roof, Cooling, Plumbing, Electrical & Interiors.
   b. Baruch Auditorium: Historic. Worst Systems: Exterior Wall, Floor, Roof, & Ceiling. No Elevator or Windows.

c. Fort Johnson Garage. Historic. Terrible condition overall. No Interior Walls, Heating, Cooling, or Elevator.
d. 276 A&B Calhoun Street. Worst Systems: Foundation, Exterior Wall, Floor, Roof, Interior Wall, Door, Ceiling, Plumbing, Electrical & Design Standards. No Elevator.
e. 272 Calhoun Street. Worst Systems: Exterior Wall, Floor, Interior Wall, Window, Ceiling, Cooling, Electrical & Design Standards. No Elevator.
f. 3 Doughty Street. Historic. Equally poor condition across the board. No Elevator.
g. 168 Ashley Avenue. Historic. Terrible condition overall. Currently vacant and un-inhabitable without renovation. Mold and Mildew issues.
h. 161 Rutledge Avenue. Historic. Worst Systems: Exterior Wall, Windows, Interior Wall, Heating & Cooling. No Elevator.
i. 159 ½ Rutledge Avenue. Historic. Worst Systems: Foundation, Exterior Wall & Design Standards. No Elevator.
j. Bank Building. Worst Systems: Exterior Wall, Interior Wall, Window, Ceiling, Heating, Cooling, Elevator & Design Standards. Scheduled for demolition.

6. Life safety issues, citations and/or warnings, and compliance issues.
a. We have asbestos and lead based paint in various facilities across campus, so the cost of repairs in those facilities includes a premium for remediation and air monitoring. These additional costs are not accounted for in the facility replacement values used to calculate deferred maintenance in this plan.
b. Not all of our existing facilities are ADA accessible. We address ADA compliance on a case-by-case as-needed basis, or as a part of large renovations when appropriate. Bringing facilities into ADA compliance is not accounted for in the facility replacement values used to calculate deferred maintenance in this plan.
c. The College of Pharmacy is located in E and F Buildings, and we have received accreditation warnings as a result of the poor condition of those facilities. We have a new College of Pharmacy Building request in our 2007 – 2008 CPIP, year 2, priority 3. The College of Dental Medicine has received accreditation warnings as well, but we are in the process of building a new clinical facility for the College of Dental Medicine, and that seems to satisfy the accrediting body. We also have some AAALAC based humidification compliance issues during very cold weather in our vivarium facilities, and we will be addressing those shortcomings this year.

7. Infrastructure will be addressed in the 2008 plan submission.

8. Infrastructure will be addressed in the 2008 plan submission.

9. The top five priorities for the first year of this plan (and why) are:
a. Campus Buildings Humidity Control Improvements, $1,000,000 because this is a AAALAC compliance issue and we are expecting a AAALAC visit in March, 2008.

b. Psych Institute Roof Replacement, $300,000 because the roof is beyond economic repair and the leaks are damaging the interiors, putting our uninterruptible power supply for the campus IT backbone at risk, and the leaks are a mold and mildew concern.

c. Psych Hospital Exterior Wall & Window Waterproofing, $700,000 because water infiltration is causing interior damage, and is a mold and mildew concern.

d. ARCO Lane Warehouse Roof Replacement, $800,000 because the roof is beyond economic repair and the leaks are causing damage to the interior including stored items.

e. Bank Building Demolition, $500,000 because this building is beyond economic repair, we have space to relocate the current occupants, and demolition will eliminate over $3.3M in deferred maintenance.

10. Additional Information.

a. We feel the magnitude of deferred maintenance for MUSC is understated because the replacement values for our facilities are understated. Even so, it should not be surprising that MUSC has a significant deferred maintenance challenge. For many years now, we have received far less annual MRR funding than the formula would suggest is necessary to maintain our facilities. In addition, MUSC receives a smaller percentage of the MRR calculation than the other two research universities in the state, even though those two universities have the ability to significantly offset appropriation shortfalls with tuition increases as a direct result of their large student populations, while we do not because of the small size of our student body.

b. MUSC has been investing an average of $11M a year toward deferred maintenance for the past six years, but we are concerned that this is less than half of the amount we should be investing, and that we may not be able to sustain that level of investment over the long term. What is certain is that we cannot possibly address our deferred maintenance needs without supplemental State funding. We have been documenting this need for the past several years in our CPIP without results.

c. For planning purposes, we are targeting an average of $10M per year toward deferred maintenance for the next 20 years. We need supplemental state funding in the average annual amount of $13M based on the State-provided existing facility replacement values, (which do not include infrastructure between buildings), and the premise that we will be able to meet our annual average target of $10M in order to reduce our deferred maintenance to an acceptable level 20 years from now.

d. One final note. The $19M and $23M average annual investments (in year 2007 dollars) needed to keep the amount of deferred maintenance from growing and to reduce deferred maintenance to an acceptable level over a 20 year period respectively represent the minimum investment needed using understated State-provided replacement costs. As deferred maintenance grows, day to day operation and maintenance costs also grow. The result of investing less than the minimum toward deferred maintenance is increased cost to the State in day to day operations and renewal because of continued deterioration and rising costs in materials and labor. The result of investing more than the minimum in deferred maintenance is day to day operations and renewal cost savings, and achievement of an acceptable amount of deferred maintenance at our facilities sooner than 20 years.

End of Plan.

The Citadel, Military College of South Carolina Deferred Maintenance Plan for Education & General Facilities

Policy

The Commission on Higher Education (CHE), recognizing the magnitude of deferred maintenance for educational and general (E&G) facilities at public institutions of higher learning, has adopted a policy which requires institutions to submit an annual plan which would determine the amount of funding needed to bring maintenance needs to an acceptable level. The plans will allow CHE to review ongoing maintenance needs in addition to the amount of maintenance that has been deferred. Also, the plan will provide interested stakeholders with an understanding of the varying needs on each campus regarding this issue.

The CHE staff, in consultation with institution facilities officers, has developed parameters for addressing E&G deferred maintenance. Plans are to be submitted to the Commission for approval by the first of July each year. The following definitions, calculation methods, and elements will be included in the plans:

Definitions

- "Deferred maintenance" is defined as project-level maintenance that should have been performed but has been postponed until adequate funding is available. This includes equipment or systems that have exceeded their expected service life and equipment or systems that are not performing at an acceptable level, even if that condition has occurred prior to the normally-accepted projected service life.
- "Acceptable level" is defined as a building condition code of 90-100 on the CHE Management Information System (CHEMIS) Building Data Summary.

Our Deferred Maintenance Requirements

The calculation method for determining The Citadel's deferred maintenance requirements is attached as Enclosure #1. As per recent CHE guidance, our consideration of "external infrastructure" requirements has been delayed approximately one year. Our actual building requirements are shown in the spreadsheet at Enclosure #2, which was developed by CHE with our input on building component conditions. The data reflects that our E&G deferred maintenance requirements amount to $25,639,680. To maintain our buildings and eliminate all our deferred maintenance requirements over a 20 year period, we would need to spend $5,902,936.00 per year specifically on building maintenance and repairs.

Our Approach to Deferred Maintenance

Each building has a Building Coordinator who is responsible for ensuring Physical Plant is notified of any deficiencies. In addition, a Zone Maintenance technician from the Physical Plant is assigned the mission of performing routine maintenance within each facility. Repairs required to satisfy safety requirements, continuity of utility services and operational requirements are satisfied first. Preventive maintenance work is routinely scheduled and accomplished by our Physical Plant. Other maintenance, repair and minor new construction projects greater than $1,000 are placed on a deferred maintenance list if funds are not available in Physical Plant's operating budget to complete the work. These work items are included as a component of the institution's unfunded requirements list developed by the institution's finance office. Work requirements are then prioritized based on established priorities of work effort, and funded as funds and/or manpower are available. Decisions on the priority of deferred maintenance projects are recommended to the President by the Executive Staff. Generally, our philosophy for making facility repairs is to correct any safety deficiencies, then provide a leak-free building envelope, and ensure HVAC and electrical services are operating at optimum efficiency and effectiveness. Projects and equipment that promote energy efficiency are evaluated and funded to the extent possible.

Additional information and accomplishments associated with reducing our deferred maintenance requirements is included in our Comprehensive Permanent Improvement Program (CPIP), attached as Enclosure #3. This document also reflects that our top capital improvement priorities are the replacement of Capers Hall and renovation of the Daniel Library. We also routinely identify and request funding in this document to reduce our deferred maintenance requirements.

Our Deferred Maintenance Plan

As noted above, the data reflects that we should be spending $5,902,936.00 annually to eliminate all our deferred maintenance requirements over the next 20 years (Enclosure #2). However, this data includes two structures, Capers Hall and the Shell Boat House, that we plan to demolish. We do plan to replace Capers Hall, but not the Shell Boat House. Because of this, the only deferred maintenance that we would undertake in these structures is the minimum to make them serviceable. Accordingly, we propose to reduce the amount to be spent annually on these structures to 10% of the amount shown, or $56,459 and $711 annually. This would adjust the amount we should spend annually on deferred maintenance to $5,388,405.00 ($5,902,936 – 564,590 – 7,111 + 56,459 + 711).

Over the past year, we spent approximately $546,000 out of our Operations & Maintenance (O&M) budget specifically on the maintenance of E&G facilities. We can expect to spend the same this following year with an increase of 3% for inflation, or $562,380. In addition, we routinely spend approximately $3 million per year out of our maintenance reserve or other accounts on building component failures and emergency repairs. Adjusting this amount for 3% inflation, we can expect to spend $3,090,000 this following year. This leaves us with a deficit or shortfall of $1,736,056. A summary of this information follows:

Dollar Amount Expected to be Spent Annually	$ 5,388,405
Dollars to be Spent from O&M Budget	(562,380)
Dollars to be Spent from Maintenance Reserve/Other Accounts	(3,090,000)
Deficit	$ 1,736,025

This leaves The Citadel with a deficit of approximately $1.7 million to meet CHE requirements, and this dollar amount does not include infrastructure maintenance requirements. There is no way The Citadel can currently meet CHE's guidance to develop a plan to eliminate our deferred maintenance requirements over a 20-year period without additional State funding or funding from other sources. We are currently in the process of awarding an energy performance contract that will help to decrease our deferred maintenance requirements significantly. However, the contract has not yet been awarded.

The dollars identified above that we plan to spend on maintenance requirements will be as per the plan outlined in our CPIP. Essentially, we expect to complete any emerging safety related deficiencies first, followed by emerging mechanical and building envelope requirements. From an individual facility perspective, projects being programmed include the replacement of mechanical systems at the Beach House, the replacement of the Letellier Hall chiller, Deas Hall swimming pool repairs, Library mechanical and electrical system improvements, old Alumni House repairs/improvements, and building envelope improvements to Mark Clark Hall. These projects are considered a priority due to failing building component systems. Due to the age and condition of a majority of our building components, and the extent of our deferred maintenance requirements, we anticipate system failures and will fund these emerging breakdowns out of the $3 + million identified above.

We have one structure that is below Building Condition Code 50, the Shell Boat House, and expect to demolish it. The facilities for which we expect apply maintenance expenditures include primarily academic, student services and library facilities. We have no current life-safety or compliance issues that are of immediate concern. Many of our structures do not meet current Americans with Disabilities Act (ADA) guidelines in that they were built prior to current building code requirements. However, we have made modifications to accommodate handicapped personnel as the need arises, and/or as structures are replaced or significantly modified.

2007 - 2027
INSTITUTIONAL DEFERRED MAINTENANCE PLAN
FOR
COASTAL CAROLINA UNIVERSITY

Contact: T. Rein Mungo, Director of University Projects and Planning
Submitted: July 27, 2007

Overview of Plan: Coastal Carolina University would currently need $6,506,054 per year to maintain existing E&G facilities and eliminate deferred maintenance. The major functions of the facilities addressed in the plan are academic, administration, athletics, library and student services. The plan spans a twenty (20) year period and is divided into five (5) year increments for planning purposes.

Buildings with Condition Codes of 50 or Less: Coastal currently has twenty-six (26) buildings with a condition code of 50 or less. Of these, thirteen are modular units which are being maintained primarily from an HVAC standpoint. Many of the units have areas that are rotting (floors, walls, etc.) that are being repaired only till these units can be replaced or retired. The University's Master Plan indicates that these units will be phased out in future years as their usefulness expires and as residents of the units are moved to other buildings on campus as space becomes available. For planning purposes, a replacement cost for each unit has been built into the plan should it become necessary to continue utilizing modular buildings on campus. Several of the buildings; two baseball dugouts, a storage building for football and media, and five physical plant shops/buildings inaccurately reflect a building condition code of 50 or less due to their lack of windows, water and HVAC which skew their condition code when surveyed. Three buildings which are below a condition code of 50 are short term leased facilities which Coastal maintains for usability but will not invest significant deferred maintenance monies into since the University does not have plans for a long term leasing commitment to these facilities. The remaining two buildings, with less than a condition code of 50, which are in need of significant deferred maintenance are the Singleton Building and the Science Building. Their major needs are addressed in the first year of Coastal's Deferred Maintenance Plan.

First Year of Plan: Coastal has identified the following four buildings as its top four priorities for the first year of its deferred maintenance plan:

1. Science Building: This building is 27 years old and is in dire need of mechanical upgrades and interior renovation. The areas requiring attention include a roofing upgrade, an HVAC system upgrade, a plumbing upgrade, building infrastructure to include painting, floor coverings, repair and replacement of case goods, and exterior renovations to include cracks in masonry due to possible foundation problems.

2. Singleton Building: This building is 43 years old and also in dire need of mechanical upgrades and interior renovation. The areas requiring attention include a HVAC system upgrade, a plumbing upgrade, an electrical upgrade, interior renovations and asbestos removal, and some exterior renovation.
3. Hampton Hall: This building is 30 years old and is in need of a new roof and HVAC system.
4. Williams Brice PE Center: This building is 36 years old and is need of a new roof, mechanical upgrades, plumbing upgrades and electrical upgrades as the building is currently maxed out. In addition, it is in need of interior and exterior refurbishment.

External Infrastructure: The external infrastructure addressed in the Deferred Maintenance Plan is primarily the upkeep and repair of all parking areas and sidewalks with regard to paving and asphalt. These calculations were based on current pricing for the University's most recent projects in 2007 with an inflation rate built in for future years. One new project of importance from a safety standpoint, though not related to deferred maintenance, is the University's need to complete sidewalks around Chanticleer Drive for student's use.

Remaining Years of Plan: Attached is Coastal's 20 year Deferred Maintenance Plan broken down in five year increments. Each building is addressed and every area of deferred maintenance is identified for each building with a cost estimate for each period. A 3% inflation rate was utilized for future years. On this basis, Coastal developed an average cost per year for a twenty year period to maintain and eliminate deferred maintenance on its campus at a rate of $6,472,360. The areas of irrigation and athletic field repair and sod replacement were not included in the attached plan. The addition of these areas would bring the cost per year to $6,506,054.

College of Charleston
Plan to Address Deferred Maintenance (DM)

Institution Deferred Maintenance Plan
For
Education and General Facilities (E&G)

1. General Information:

- Point of Contact: John A. Cordray, Jr., Deputy Director of Engineering, Physical Plant, E-mail: CordrayJ@CofC.edu
- Point of Contact (alternate): Dennis Foster, Director Physical Plant; E-mail: FosterD@CofC.edu
- Years Covered: FY-2007-08 through FY2027-2028 (20 years)
- Date of submission: Sept. 3, 2007

2. Annual amount needed to:

- Maintain existing E&G facilities: $4,290,645
- Eliminate deferred maintenance: $5,648,024
- Address external infrastructure needs: $---TBD--- (FY-08)

3. Major Function of Facilities Addressed in Plan:

- Academic
- Research
- Administration
- Physical Plan
- Student Services
- Residence (Student Housing)
- Library
- Recreation

4. External Influences Impacting Plan:

- Historic Preservation and Archaeological Issues:
  - The College of Charleston campus is situated within the Charleston Historic District and Randolph Hall is listed as a significant national structure by the National Trust for Historic Preservation (NTHP).
  - The College of Charleston is listed on the National Register of Historic Places (NRHP)
  - College or Charleston Facilities are also located on Historic Fort Johnson, James Island, SC and Dixie Plantation, Hollywood, SC both with the potential archaeological significance.
  - City of Charleston Board of Architectural Review (BAR) reviews all projects with respect to historic preservation.
- Hurricane flood zone:
  - Downtown Charleston is located within a storm surge area and prone to tropical storm/hurricanes from June through November.
- Seismic Zone:

    - Charleston coastal region is located in a moderate seismic zone; therefore facilities may require seismic retrofitting when major repairs are implemented.
- Facility age:
    - 90% of real property assets are in excess of 50 years old
    - Specific maintenance and repair procedures must be observed/implemented to maintain historical significance
- Proximity of City of Charleston to tourist areas
- Local and State regulatory issues:
    - Asbestos and Lead abatement requirements will effect proposed repair projects.
- Use of College of Charleston facilities (exterior) throughout the spring for the Spoleto Arts Festival.

5. Explanation of major systems problems with deficiency code (DC) of 50 or less:

The following eleven (11) facilities have a facilities DC of 50 or less:

1. Taylor Shop, 94 Wentworth St.: DC=31. Reason: Deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems

2. Magazine-Grice Lab: DC=36. Reason: Deteriorated interior/exterior walls, windows and foundation.

3. 5 College- Bolles Academy: DC=40. Budget and Control Board Permanent Improvement Project Request (A-1) approved; A/E selection process underway.

4. 9 College- Erckmann House: DC=42. Under construction.

5. 72 George Street: DC=43. Reason: Deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems.

6. 58 George - Elliott House: DC=46. Reason: Deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems.

7. 7 College- Bolles House: DC=46. Reason: Under construction.

8. Physical Education and Health (Silcox), 24 George St.: DC=46. Reason: Deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems.

9. Simons Center for the Arts, 54 St. Philip St.: DC=46. Reason: Deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems.

10. 44 St. Philip Street: DC=48. Reason: Deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems.

11. 74 George Street: DC=48. Reason: Deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems.

6. Life/safety issues, citations and/or warning and compliance issues:

- (See item 9)

7. Facility Infrastructure method of justification and rationale:

- Infrastructure will be addressed in the 2008 plan submission.

8. Facility Infrastructure method of estimating cost for bringing infrastructure to like-new condition:

- NA (See item 7)

9. Top five (5) priorities for the first year of the plan:

- 72 George Street: DC=43. Justification and rational for immediate repairs: Faculty and staff functions are frequently disrupted due to deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems.

- 58 George - Elliott House: DC=46. Justification and rational for immediate repairs: Historical facility with potential life safety issues (i.e. exposed electrical wiring) and severely deteriorated interior/exterior walls ceiling, floors, windows mechanical and electrical systems.

- Physical Education and Health (Silcox), 24 George St.: DC=46. Justification and rational for immediate repairs: Faculty, staff and student functions are frequently disrupted due to deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems. Potential life safety has resulted from mold and mildew.

- Simons Center for the Arts, 54 St. Philip St.: DC=46. Justification and rational for immediate repairs: Faculty, staff and student functions are frequently curtailed due to deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems. Potential life safety has resulted from mold and mildew.

- 74 George Street: DC=48. Justification and rational for immediate repairs: Faculty and staff functions are frequently curtailed due to deteriorated interior/exterior walls ceiling, floors, windows, mechanical and electrical systems.

10. Additional Information:

- CAAN Facility, 172 Calhoun St.: DC=66. Justification and rational for immediate repairs: Roof severely deteriorated. Roof condition is impacting classroom function. Facility has DC>50; however due to reduced capacity of building use, recommend maintenance and repair action occur early FY-08.

- 123 Bull St.: DC=54. Justification and rational for immediate repairs: Roof severely deteriorated and facility is structurally deficient. Roof condition is impacting building occupancy. Facility has DC>50; however due to reduced capacity of building use, recommend maintenance and repair action occur early FY-08.

FRANCIS MARION UNIVERSITY

Department of Facilities Management

August 3, 2007

Ms. Alyson Goff
Commission on Higher Education
Finance, Facilities, & MIS
1333 Main Street, Suite 200
Columbia, SC 29201

Subject: Institutional Deferred Maintenance Plan Summary

The overall condition of the building structures at Francis Marion University are, for the most part, in a fair to good condition. Academic building interiors and MEP support systems are significantly worn and have contributed to more numerous interruptions to activities and resulted in increasing maintenance spending. Providing adequate functional space has become more challenging as curriculums have expanded and enrollments increased. Asbestos contamination and abatement continues to be a significant factor in managing the organizational support function. We continue to encounter problems with obsolescence of major equipment; e.g. parts are no longer available requiring replacement of major equipment items at greater expense. A listing of deferred maintenance projects originally compiled indicated deferred maintenance needs exceed $16.5M; of which $1.39M was approved and appropriated during FY 05-06. The deferred maintenance listing changes monthly as costs increase, priorities are modified, and additional projects are identified and added to the listing.

Our Institutional Deferred Maintenance Plan concentrates on the next five years. If Deferred Maintenance State approved funds are available over the next five years, this summary proposes how we would use the funds.

Year 1 (2007-08)
Smith University Center Pool Renovation – Estimated cost: $968,000
Warehouse flooding issue – Estimated cost: $15,000

Year 2 (2008-09)
Cauthen Educational Media Center Roof Repairs/replacement – Estimated Cost: $560,000
Rogers Library Roof Repairs/replacement – Estimated Cost: $200,000
Stanton Academic Computer Center – Estimated Cost: $50,000

Year 3 (2009-10)
Cauthen Educational Media Center HVAC Upgrades/Replacement – Estimated Cost: $285,000

Box 100547, Florence, South Carolina 29501-0547 * (843) 661-1100 FAX (843)-661-1565

Fine Arts Center HVAC Upgrades/Replacement – Estimated Cost: $285,000
Smith University Center Gym HVAC Upgrades/Replacement – Estimated Cost: $350,000

Year 4 (2010-11)
Founders Hall Renovation – Estimated Cost: $9,775,000

Year 5 (2011-2012)
Leatherman Science Building

- Remove defective wallcovering and paint walls
- Replace floor surface in south tower
- Replace carpet in halls
- Replace restroom flush valves

- Estimated Cost: $173,940

Office Services Building Renovation/Replacement – Estimated Cost: $800,000

Also, enclosed is our Institutional Deferred Maintenance Summary Excel Spreadsheet which summarizes our plan. We would like to emphasize again the fact of deferred maintenance listing changes monthly as costs increase, priorities are modified, and additional projects are identified and added to the listing.

If you have any questions give me a call.

Regards,

Ralph Davis
Director, Facilities Management

Enclosure: Institutional Deferred Maintenance Plan 07-31-2007

INSTITUTIONAL DEFERRED MAINTENANCE PLAN: FIVE-YEAR PLAN

AGENCY NUMBER: H18 NAME: Francis Marion University

	(1) Plan Year 1 2007-08	(2) Plan Year 2 2008-09	(3) Plan Year 3 2009-10	(4) Plan Year 4 2010-11	(5) Plan Year 5 2011-12	(7) Grand Total Years 1-5
1. NUMBER OF PROPOSED DEFERRED PROJECTS	2	3	3	1	2	11
2. E & G FACILITIES						
Alston Housing Office						
Cauthen Educational Media Center		560,000.00	285,000.00			845,000.00
Dressing Facility						
Energy Facility (Physical Plant)						
Fine Arts Center			285,000.00			
Fine Arts Center Annex						
Founders Hall				9,775,000.00		9,775,000.00
Grounds Trailer						
Leatherman Science Building					173,940.00	173,940.00
Lee Nursing Building						
McNair Science Building						
Motor Pool Shed						
Observatory						
Office Services					800,000.00	800,000.00
Rogers Library		200,000.00				
Smith University Center	968,000.00		350,000.00			1,318,000.00
Stanton Academic Computer Center		50,000.00				50,000.00
Stokes Administration Building						
Utility Distribution Center						
Wallace House						
Warehouse	15,000.00					
Grille (Student Activity Center)						
TOTAL	**983,000.00**	**810,000.00**	**920,000.00**	**9,775,000.00**	**973,940.00**	**12,961,940.00**

Lander University
2007 Deferred Maintenance
Key Elements

Date: August 22, 2007

1. General Information:

Name of Institution: Lander University
Contact: Jeff Beaver
Director – Office of Engineering Services
(864) 388-8208 office
(864) 388-8799 fax
jbeaver@lander.edu

2. Deferred Maintenance Budget:
   a. Estimated budget to maintain existing E&G facilities, Educational and General
   b. Eliminate Deferred Maintenance
   c. Maintain external infrastructure needs of University

3. E&G Facilities :
   a. Carnell Learning Center
   b. Jackson Library
   c. Grier Student Center
   d. Barrett Hall
   e. Cultural Center
   f. Science Building
   g. Laura Lander Hall
   h. PEES Building (Physical Education and Exercise Studies)
   i. Horne Arena
   j. Genesis Building
   k. Facilities Operations Building
   l. Recreation Building
   m. Crews Corner Studios

4. Campus Infrastructure:
   a. Summary of issues

Carnell Learning Center
Year of Construction: 1984
Sq. Foot: 110,898
Building Construction: Three story w/ basement, Steel I beam, Brick Veneer, Flat Roof

The Carnell Learning Center services the following:
Academic Space: School of Business, School of Education
Administrative Offices and related support areas:
President of the University, VP for Business and Administration
VP for University Advancement, VP for Academic Affairs

Deferred Maintenance Summary:
Roof – The existing (original) roof system was installed in 1984. The roofing system has failed and thermographic scans have revealed areas of severe water saturation. The re-roofing scope will involved metal deck replacement and roofing system replacement.
Estimate: $ 1, 750,000
CPIP Plan: 2007 Critical Maintenance Project

HVAC – All existing equipment is original. System is a Heat-pump loop system supported by roof mounted cooling tower. All components of the HVAC system will be replaced over the nest 20 years due to equipment life spans, inefficiencies and failures:
The tower was replaced by Lander University in 2003.
Internal loop piping, individual heat pumps, System air handing units and related pumps and System Controls
Estimate: $ 1,250,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 15 years.
Estimate: $ 1,250,000

Electrical - All existing equipment is original. The Electrical Distribution Panels are nearing maximized attached load and additional electrical service will be required within the next 10 years. Lighting fixtures have a limited life and an upgrade will be required within the next 10 years. The older fixtures are lacking expected energy consumption efficiency.
Estimate: $ 250,000

Other Utilities –
Natural Gas boilers are responsible for providing hot water to the building. The boilers require annual inspections and the ever increasing safety system mandates will eventually mandate replacements of the existing system. All hardware has a projected operational lifespan and boiler replacement will be due in the next 10 years.
Estimate: $ 550,000

Carnell Learning Center

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire door system replacements, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems, the systems will be replaced over the next 20 years. The elevators will require eventual replacements and code compliancy.
Estimate: $ 1,500,000
Elevators: $ 1,200,000 (replacements)

External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lintel deterioration / replacement, leaking windows, leaking storefront.
Estimate: $ 325,000

Grier Student Center
Year of Construction: 1978
Sq. Foot: 64,000
Building Construction: Two story, with basement, Steel I beam, Brick Veneer, Flat Roof

The Grier Student Center services the following:
Academic Space: None
Administrative Offices and Related support areas:
Student Affairs / Housing, Student Career Services, Student Government
Non E&G Space: Dining Hall, Short Order Grill, Bookstore, Post Office

Deferred Maintenance Summary:
Roof – The Roofing System was replaced by Lander University in 2006. Annual inspections and regular maintenance will be required over the next 20 years.
Estimate: $ 100,000

HVAC – All existing equipment is original. All components of the HVAC system will be replaced over the nest 10 years due to equipment life spans, inefficiencies and failures.
Internal loop piping, Sectional Chiller, System air handing units, related pumps and System Controls. The Cooling Tower was replaced in 2006.
Estimate: $ 850,000
CPIP Plan: 2007 Critical Maintenance Project

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 15 years. ADA compliancy will be addressed.
Estimate: $ 450,000

Electrical - All existing equipment is original. The Electrical Distribution Panels are nearing maximized attached load and additional electrical service will be required within the next 10 years. Lighting fixtures have a limited life and an upgrade will be required within the next 10 years. The older fixtures are lacking expected energy consumption efficiency.
Estimate: $ 425,000

Other Utilities –
Natural Gas boilers are responsible for providing hot water to the building. The boilers require annual inspections and the ever increasing safety system mandates will eventually mandate replacements of the existing system. All hardware has a projected operational lifespan and boiler replacement will be due in the next 10 years.
Estimate: $1,250,000

Grier Student Center

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years. The elevators (qty.03) will require eventual replacement to ensure code compliancy. These elevators serve the Cultural Center as well.

Estimate: $ 900,000
Elevators: $ 1,200,000 (replacement)

External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lintel deterioration / replacement, leaking windows, leaking storefront.

Estimate: $ 725,000

Jackson Library
Year of Construction: 1976
Sq. Foot: 65,255
Building Construction: Two story, with basement, Steel I beam, Brick Veneer, Flat Roof

The Jackson Library services the following:
Academic Space: Computer Lab
Administrative Offices and related support areas: (various)
Traditional Library Function

Deferred Maintenance Summary:
Roof – The Roofing System was replaced by Lander University in 2006. Annual inspections and regular maintenance will be required over the next 20 years.
Estimate: $ 100,000

HVAC – All existing equipment is original. All components of the HVAC system will be replaced over the nest 10 years due to equipment life spans, inefficiencies, failures and the ongoing inability to control temperature and humidity. Historical archived material is now being damaged.
Internal loop piping, Sectional Chiller, System air handing units, Related pumps and System Controls
Estimate: $ 2,000,000
CPIP Plan: 2007 Jackson Library Renovation

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 15 years. ADA compliancy will be addressed.
Estimate: $ 250,000

Electrical - All existing equipment is original. The Electrical Distribution Panels are maximized and additional electrical service will be required within the next 10 years. Lighting fixtures have a limited life and an upgrade will be required within the next 10 years. The older fixtures are lacking expected energy consumption efficiency.
Estimate: $ 600,000

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years. The elevator will require eventual replacement to ensure code compliancy.
Estimate: $ 1,200,000
Elevators: $ 600,000 (replacement)

External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, and stormwater management issues:
Estimate: $ 375,000

Barrett Hall
Year of Construction: 1967
Sq. Foot: 24,445
Building Construction: One story, with basement, Steel I beam, Brick Veneer, Flat Roof

Barrett Hall services the following:
Academic Space: School of Nursing
Administrative Offices and Related support areas:
Human Resources, Procurement, Alumni Affairs

Deferred Maintenance Summary:
Roof – A Roofing membrane was installed over a deteriorating roofing system as part of a limited renovation to the building in early 2000. The expected life of the roofing membrane was estimated at 10 – 15 years. The entire roofing system will need to be replaced in the next 10 years.
Estimate: $ 450,000

HVAC – All existing equipment is original. All components of the HVAC system will be replaced over the next 15 years due to equipment life spans, inefficiencies and failures.
Estimate: $ 400,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 20 years. ADA compliancy will be addressed.
Estimate: $ 150,000

Electrical - All existing equipment is original. The Electrical Distribution Panels are maximized and additional electrical service will be required within the next 10 years. The limited renovation replaced a portion of the existing fixtures. All lighting fixtures have a limited life and an upgrade will be required within the next 10 years. The older fixtures are lacking expected energy consumption efficiency.
Estimate: $ 210,000

Other Utilities –
Natural Gas boilers are responsible for providing hot water to the building. The boilers require annual inspections and the ever increasing safety system mandates will eventually mandate replacements of the existing system. All hardware has a projected operational lifespan and boiler replacement will be due in the next 10 years.
Estimate: $245,000

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years.
Estimate: $ 750,000

Barrett Hall
External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lentil deterioration / replacement, leaking windows, leaking storefront.
Estimate: $ 250,000

Cultural Center
Year of Construction: 1987
Sq. Foot: 67,947
Building Construction: Two story, with basement, Steel I beam, Brick Veneer, Flat Roof

The Cultural Center services the following:
Academic Space: College of Arts and Humanities
Administrative Offices and Related support areas: Faculty Offices, Campus Auditorium
Non E&G Space: None

Deferred Maintenance Summary:
Roof – The Roofing System was replaced by Lander University in 2006. Annual inspections and regular maintenance will be required over the next 20 years.
Estimate: $ 100,000

HVAC – All existing equipment is original. All components of the HVAC system will be replaced over the nest 10 years due to equipment life spans, inefficiencies and failures.
Internal loop piping, Sectional Chiller, System air handing units, Cooling Tower, Related pumps and System Controls.
Estimate: $ 1,150,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 15 years. ADA compliancy will be addressed.
Estimate: $ 650,000

Electrical - All existing equipment is original. This building is controlled by an Energy Management System installed when the building was built. The system hardware has a limited operational life and replacement hardware is no longer available. Replacement of this Energy Management System is inevitable. Lighting replacements, Electrical Distribution Panels are maximized and additional electrical service will be required within the next 10 years.
Estimate: $ 950,000

Other Utilities –
Natural Gas boilers are responsible for providing hot water to the building. The boilers require annual inspections and the ever increasing safety system mandates will eventually mandate replacements of the existing system. All hardware has a projected operational lifespan and boiler replacement will be due in the next 10 years.
Estimate: $ 210,000

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years.
Estimate: $ 2,185,000

Cultural Center
External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lintel deterioration / replacement, leaking windows, leaking storefront.
Estimate: $ 600,000

Science Building
Year of Construction: 1996
Sq. Foot: 83,603
Building Construction: Two story, with basement, Steel I beam, Brick Veneer, Flat Roof

The Science Building services the following:
Academic Space: College of Science (Chemistry, Biology)
Administrative Offices and Related support areas: Faculty Offices
Non E&G Space: None

Deferred Maintenance Summary:
Roof – The existing (original) roof system was installed in 1990. Approximately 20% of the roofing system has failed and a thermographic scan has revealed areas of severe water saturation. The re-roofing of the failed portion was conducted in 2007. However, even with continued roofing maintenance, the roof system replacement will be necessary within the next 10 years.
Estimate: $ 1, 450,000

HVAC – All existing equipment is original. All components of the HVAC system will be replaced over the next 20 years due to equipment life spans, inefficiencies and failures. The cooling tower has had the sump area coated to extend the life of the tower for an additional 2 years. Failure of the tower is imminent and will be catastrophic.

The HVAC system operates off of a theory off 100% Outside Air. Which means all air conditioned (heated or cooled) and cycled through the building. This concept is necessary to ensure proper safety for human beings due to the various chemicals and the need for proper ventilation, reducing the exposure time and ensuring established safety concentration thresholds are respected.
Internal loop piping, Sectional Chiller, System air handing units, Cooling Tower, Related pumps and System Controls.
Estimate: $ 3,250,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, laboratory stations, water heaters, roof vents and drain systems the equipment will be replaced over the next 20 years.
Estimate: $ 1,650,000

Electrical - All existing equipment is original. This building is controlled by an Energy Management System installed when the building was built. The system hardware has a limited operational life. Replacement of this Energy Management System is inevitable as technology progresses and supporting hardware and software becomes no longer available. Lighting upgrades and laboratory requirements will be ever changing.
Estimate: $ 1,200,000

Science Building

Other Utilities –

Natural Gas boilers are responsible for providing hot water to the building. The boilers require annual inspections and the ever increasing safety system mandates will eventually mandate replacements of the existing system. All hardware has a projected operational lifespan and boiler replacement will be due in the next 10 years.

Estimate: $ 650,000

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years. The elevator will require eventual replacement to ensure code compliancy.

Estimate: $ 2,100,000

Elevators: $ 600,000 (replacement)

External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lintel deterioration / replacement, leaking windows, leaking storefront.

Estimate: $ 410,000

Laura Lander Hall
Year of Construction: 1925
Sq. Foot: 22,257
Building Construction: Two story, with basement, Steel I beam, Brick Veneer, Flat Roof

Laura Lander Hall services the following:
Academic Space: College of Mathematics & Computing
Administrative Offices and Related support areas: Faculty Offices
Non E&G Space: None

Historical Information:
Laura Lander Hall is the original Lander University Academic Building and is affectionately known on campus as "Old Main". The belfry is the highly recognized and cherished symbol of Lander University. The belfry is in desperate need of a structural and aesthetics renovation. The brick work, roofing and detailed woodwork will be addressed through a historical perspective during the renovation. Federal Grants to assist in the expense of the renovation are being sought after.
Estimate: $ 625,000

Deferred Maintenance Summary:
Roof – The sloped roof lines of the building are shingled and the re-roofing will be required within the next 10 years. The stormwater management system, gutters, downspouts will be replaced at this time. The detailed woodwork of the soffit is damaged due to the exposure to the elements and water. With continued roofing maintenance, the roof system replacement will be necessary within the next 10 years.
Estimate: $ 1, 150,000

HVAC – All components of the HVAC system will be replaced over the next 20 years due to equipment life spans, inefficiencies and failures.
Internal loop piping, Sectional Chiller, System air handing units, Cooling Tower, Related pumps and System Controls.
Estimate: $ 750,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, laboratory stations, water heaters, roof vents and drain systems the equipment will be replaced over the next 20 years.
Estimate: $ 350,000

Electrical - All existing equipment is original. This building is controlled by an Energy Management System installed when the building was renovated in 990. The system hardware has a limited operational life. Replacement of this Energy Management System is inevitable as technology progresses and supporting hardware and software becomes no longer available. Lighting upgrades and laboratory requirements will be ever changing.
Estimate: $ 225,000

Laura Lander Hall

Other Utilities –

Natural Gas boilers are responsible for providing hot water to the building. The boilers require annual inspections and the ever increasing safety system mandates will eventually mandate replacements of the existing system. All hardware has a projected operational lifespan and boiler replacement will be due in the next 10 years.

Estimate: $ 250,000

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years. The elevator will require eventual replacement to ensure code compliancy.

Estimate: $ 750,000

Elevators: $ 600,000 (replacement)

External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lintel deterioration / replacement, leaking windows, leaking storefront.

Estimate: $ 425,000

Physical Education and Exercise Studies Building (PEES)
Year of Construction: 1997
Sq. Foot: 73,249
Building Construction: Two story, Steel I beam, Brick Veneer, Flat Roof

The PEES services the following:

Academic Space: College of Education; Department of PEES
Administrative Offices and Related support areas: Faculty Offices, Athletic Team Weight Training area, Practice Basketball Courts, Running Track, and Olympic Pool
Non E&G Space: None

Deferred Maintenance Summary:
Roof – The existing (original) roof system was installed in _____. The roofing system is acceptable and replacement is anticipated during the next 15 years.
Estimate: $ 1, 750,000

HVAC – All components of the HVAC system will be replaced over the next 20 years due to equipment life spans, inefficiencies and failures.
Estimate: $ 1,225,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stall, showers, supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 20 years.
The Olympic competitive pool requires constant maintenance. The issues of sidewall and bottom waterproofing integrity, water treatment, water quality, ventilation, and auxiliary equipment maintenance require constant attention and maintenance expense. Regardless, the "re-lining" of the pool sidewalls and bottom is anticipated within the next 15 years.
Estimate: $ 2,250,000

Electrical - All existing equipment is original. This building is controlled by an Energy Management System installed when the building was renovated in 1990. The system hardware has a limited operational life. Replacement of this Energy Management System is inevitable as technology progresses and supporting hardware and software becomes no longer available. Lighting upgrades and laboratory requirements will be ever changing.
Estimate: $ 240,000

Other Utilities –
Natural Gas boilers are responsible for providing hot water to the building. The boilers require annual inspections and the ever increasing safety system mandates will eventually mandate replacements of the existing system. All hardware has a projected operational lifespan and boiler replacement will be due in the next 10 years.
Estimate: $ 250,000

Physical Education and Exercise Studies Building (PEES)

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years. The elevator will require eventual replacement to ensure code compliancy.

Estimate: $ 1,550,000

External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lintel deterioration / replacement, leaking windows, leaking storefront.

Estimate: $ 325,000

Horne Arena
Year of Construction: 1991
Sq. Foot: 53,042
Building Construction: Two story, Steel I beam, Brick Veneer, Flat Roof

The Horne Arena provides facilities for the following:

Academic Space: Basketball Courts, Volleyball Courts, Athletic Locker Rooms, Athletic Training Center, Arena Concessions
Administrative Offices and Related support areas: Athletic Director and Coaches Offices
Non E&G Space: None

Deferred Maintenance Summary:
Roof – The existing (original) roof system was installed in _____. The roofing system is acceptable and replacement is anticipated during the next 15 years.
Estimate: $ 1,850,000

HVAC – All components of the HVAC system will be replaced over the next 20 years due to equipment life spans, inefficiencies and failures.
Estimate: $ 1,125,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls, showers, athletic whirl pools, supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 20 years.
Estimate: $ 1,115,000

Electrical - All existing equipment is original. This building is controlled by an Energy Management System installed when the building was renovated in 1990. The system hardware has a limited operational life. Replacement of this Energy Management System is inevitable as technology progresses and supporting hardware and software becomes no longer available. Lighting upgrades and laboratory requirements will be ever changing.
Estimate: $ 320,000

Other Utilities –
Natural Gas boilers are responsible for providing hot water to the building. The boilers require annual inspections and the ever increasing safety system mandates will eventually mandate replacements of the existing system. All hardware has a projected operational lifespan and boiler replacement will be due in the next 10 years.
Estimate: $ 515,000

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years. The elevator will require eventual replacement to ensure code compliancy.
Estimate: $ 1,450,000
Elevator: $ 600,000 (replacement)

Horne Arena
External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lintel deterioration / replacement, leaking windows, leaking storefront.
Estimate: $ 325,000

Genesis Hall
Year of Construction: 1974
Sq. Foot: 11,940
Building Construction: One story, Steel I beam, Brick Veneer, Flat Roof

Genesis Hall services the following:
Academic Space: School of Nursing
Administrative Offices and Related support areas:
Human Resources, Procurement, Alumni Affairs

Deferred Maintenance Summary:
Roof – A Roofing membrane was installed over a deteriorating roofing system as part of a limited renovation to the building in early 2000. The expected life of the roofing membrane was estimated at 10 – 15 years. The entire roofing system will need to be replaced in the next 10 years.
Estimate: $ 325,000

HVAC – All existing equipment is original. All components of the HVAC system will be replaced over the next 15 years due to equipment life spans, inefficiencies and failures.
Estimate: $ 85,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 20 years. ADA compliancy will be addressed.
Estimate: $ 65,000

Electrical - All existing equipment is original. The Electrical Distribution Panels are maximized and additional electrical service will be required within the next 10 years. The limited renovation replaced a portion of the existing fixtures. All lighting fixtures have a limited life and an upgrade will be required within the next 10 years. The older fixtures are lacking expected energy consumption efficiency.
Estimate: $ 175,000

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years.
Estimate: $ 115,000

External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lentil deterioration / replacement, leaking windows, leaking storefront.
Estimate: $ 115,000

Facility Operations Building
Year of Construction: 2005
Sq. Foot: 11,708
Building Construction: Two story, Steel I beam, Brick Veneer / Metal Siding, Sloped Metal Roof

Facility Operations Building services the following:
Academic Space: None
Administrative Offices and Related support areas:
Engineering Services, Physical Plant / Maintenance Department

Deferred Maintenance Summary:
Roof – Original, slightly sloped metal roof system. Annual Roof inspections and maintenance will be required over the next 20 years.
Estimate: $ 50,000

HVAC – All existing equipment is original. Within the next 20 years, there will be equipment failures warranting replacement.
Estimate: $ 100,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 20 years. ADA compliancy will be addressed.
Estimate: $ 50,000

Electrical - All existing equipment is original. The limited renovation replaced a portion of the existing fixtures. All lighting fixtures have a limited life and replacements should be expected during the next 20 years.
Estimate: $ 50,000

Other Utilities –
Natural Gas space heaters are being used in the woodworking shop. All hardware has a projected operational lifespan and replacement will be due in the next 20 years.
Estimate: $75,000

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years.
Estimate: $ 325,000

External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lentil deterioration / replacement, leaking windows, leaking storefront.
Estimate: $ 40,000

Recreation Building
Year of Construction: 1952
Sq. Foot: 8,246
Building Construction: One story, Steel I beam, Brick Veneer, and Sloped shingled Roof

Recreation Building services the following:
Academic Space: None
Administrative Offices and Related support areas: None
Other: Outdoor pool, constructed in 1965
Indoor event space

Historical Information:
The Recreation Building was built by the City of Greenwood in 1952 as part of the Sproles Street recreation Complex. Lander University acquired the property in the 1970s. Lander University has maintained operation of the pool to be enjoyed by the Lander students, local youth organizations, and scheduled special events. Within the Greenwood community, the "Sproles Street Pool" is well known and beloved by all.

Lander University is trying to pursue an applicable grant opportunities to assist in the restoration of the building and immediate grounds.

Deferred Maintenance Summary:
Roof – The shingled roof system has experienced water damage and re-shingling has occurred multiple times throughout the life of the building. The replacement of the underlying plywood is in need of replacement during the next scheduled re-roofing venture. Annual Roof inspections and maintenance will be required over the next 20 years.
Estimate: $ 125,000

HVAC – All existing equipment is original. Performance is quite poor, efficiency is quite poor. Within the next 10 years, there will be equipment failures warranting replacement.
Estimate: $ 100,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 20 years. ADA compliancy will be addressed.
Estimate: $ 325,000

Electrical - All existing equipment is original. Due to the age of the existing electrical distribution system, any additions will trigger complete code compliance. The Electrical Distribution Panels are maximized and additional electrical service will be required within the next 10 years. All lighting fixtures have a limited life and an upgrade will be required within the next 10 years. The older fixtures are lacking expected energy consumption efficiency.
Estimate: $ 100,000

Other Utilities –
Natural Gas space heaters are being used in the woodworking shop. All hardware has a projected operational lifespan and replacement will be due in the next 20 years.
Estimate: $75,000

Recreation Building

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years.
Estimate: $ 125,000

External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lentil deterioration / replacement, leaking windows, leaking storefront.
Estimate: $ 175,000

Crews Corner Studios
Year of Construction: 1957
Sq. Foot: 9,018
Building Construction: Two story, Steel I beam, Brick Veneer, and flat Roof

Crews Corner Studios services the following:
Academic Space: School of Arts and Humanities
Administrative Offices and Related support areas: Art professor office

2007 CPIP – The 2007 CPIP request outlined a series of sequential events once the University Center is ever constructed. The Arts and Humanities would be relocated to another building and then this building, Crews Corner Studios, would be considered for demolition. The documented Deferred Maintenance expenses would be eliminated.

Deferred Maintenance Summary:
Roof – The existing roof system was installed in 1980. The roofing system has failed and thermographic scans have revealed areas of severe water saturation.
Annual Roof inspections and maintenance will be required over the next 20 years.
Estimate: $ 250,000

HVAC – All existing equipment is original. Performance is quite poor, efficiency is quite poor. Within the next 10 years, there will be equipment failures warranting replacement.
Estimate: $ 80,000

Plumbing – Due to the operational cycle time of the appliances (faucets, commodes, urinals, stalls), supporting piping systems, water heaters, roof vents and drain systems the equipment will be replaced over the next 20 years. ADA compliancy will be addressed.
Estimate: $ 20,000

Electrical - All existing equipment is original. Due to the age of the existing electrical distribution system, any additions will trigger complete code compliance. The Electrical Distribution Panels are maximized and additional electrical service will be required within the next 10 years. All lighting fixtures have a limited life and an upgrade will be required within the next 10 years. The older fixtures are lacking expected energy consumption efficiency.
Estimate: $ 50,000

Interior Spaces – Due to expected lifespan of the interior ceiling systems, flooring systems, wall maintenance, lighting replacements upgrades, Fire Alarm monitoring systems, wireless communication expansion, internal doors, external doors (ADA Compliancy) and storefront glazing systems will be replaced over the next 20 years.
Estimate: $ 450,000

External Veneer: Assorted brick veneer repairs, mortar repairs, settlement issues, waterproofing, stormwater management issues, Leaking window ledges, brick lentil deterioration / replacement, leaking windows, leaking storefront.
Estimate: $ 115,000

4. **Campus Infrastructure**

The campus infrastructure needs include the various campus utilities;

a. Electrical
b. POTW Water
c. Sanitary Sewer
d. Natural Gas

Lander University has responsibility to maintain the utility to each building, even thought the Public Utility Agency may actually own the utility. The local utility provider may very well perform the repairs, yet they transfer the costs back to Lander University.

Within the non utility infrastructure, the following are included;

a. Pedestrian walk-ways
b. Campus brick-paver courtyard areas
c. Paved walk-ways
d. Vehicular roadways
e. Stormwater Management (to include the underground piping)
f. Stormwater Erosion Control (Sample Branch Creek)
f. Structural Retaining Walls
g. Underground Fire Protection Piping (Building loops)
h. Cross-Campus underground communication duct-banks
i. Parking Lot Maintenance
j. Campus-wide lighting
k. CCTV Surveillance Systems in public spaces
l. Cross-Campus ADA compliance for pedestrian walking routes (2007 CPIP)

South Carolina State University
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Division of Finance,
Facilities and Management
Information Systems

August 6, 2007

Ms. Lynn W. Metcalf
Director of Finance, Facilities & MIS
S.C. Commission on Higher Education
133 Main Street, Suite 200
Columbia, SC 29201

Dear Ms. Metcalf:

Please find enclosed South Carolina State University's (SCSU's) Deferred Maintenance Plan for E&G Facilities, titled "Facilities Capital Action Plan". This plan was prepared by Sodexho Campus Services in 2005 and remains our plan for the next several years.

The major functions of the facilities being addressed in the plan include academic, administration, student services, library, etc. See Attachment A "Calculations for E&G Deferred Maintenance Plan" for amounts needed per year to maintain existing E&G facilities and to eliminate deferred maintenance. See Attachment B for list of facilities by functions.

SCSU's top 3-5 priorities for the first year of the plan and the rationale for their selection include:

1. Wilkinson Hall Renovation – This building has a condition code of 36%. Indoor air quality problems in the building have forced the relocation of 6 critical programs from this building to other buildings on campus, exacerbating an already overcrowded condition with severe shortage of adequate office/administration space. Wilkinson Hall is one of several buildings on campus listed on the National Register of Historic Places. To the highest extent practicable, SCSU will adhere to the standards and guidelines of the State Historic Preservation Office. Demolition of historic buildings will be considered only as a last resort.

2. Miller Hall Office Space Conversion –Miller Hall is a student housing facility built in 1938. It was recently closed for student occupancy when new student apartment housing construction was completed. In an effort to mitigate the severe shortage in adequate office/administration space on campus, SCSU plans to convert this residential facility to an office/administration building. Miller Hall is one of several buildings on campus listed on

the National Register of Historic Places. To the highest extent practicable, SCSU will adhere to the standards and guidelines of the State Historic Preservation Office. Demolition of historic buildings will be considered only as a last resort.

3. Bradham Hall Office Space Conversion – Bradham Hall is a student housing facility built in 1916. It is one of the oldest buildings on campus and was recently closed for student occupancy when new student apartment housing construction was completed. In an effort to mitigate the severe shortage in adequate office/administration space on campus, SCSU plans to convert this residential facility to an office/administration building.

4. Manning Hall Office Space Conversion – Manning Hall is a student housing facility built in 1916. It is also one of the oldest buildings on campus and was recently closed for student occupancy when new student apartment housing construction was completed. In an effort to mitigate the severe shortage in adequate office/administration space on campus, SCSU plans to convert this residential facility to an office/administration building.

We thank you for the opportunity to submit our deferred maintenance plan. Should you have any questions, please give me a call at the above number.

Sincerely,

John E. Smalls, Sr. Vice President
Finance, Facilities & MIS

Deferred Maintenance Plan
2008-2028

August 3, 2007

Executive Summary

The University of South Carolina Aiken was established in 1961 and moved to its current location ten years later. With exception of the 4,500 square-foot Pickens Salley House, constructed in 1827, there are no historic structures on campus. Facilities have been well-maintained and the majority of buildings are less than 30 years old. Nonetheless, the widening gap between available funding and the annual investment necessary to properly maintain campus infrastructure presents an ominous challenge. In response to this concern, the University has recently embarked upon a strategic effort to develop a more comprehensive funding plan for deferred maintenance and renewal projects. To the extent that additional funds are not available from the State, this plan will undoubtedly translate to higher tuition costs, compounding concerns of affordability. Presently, USC Aiken has one of the lowest tuition rates of public teaching institutions in South Carolina. However, continued efforts to increase efficiencies and contain cost cannot be sustained without corresponding sacrifices in program quality and/or deterioration of capital assets.

This document contains a snapshot of campus deferred maintenance and renewal needs for a 20-year period commencing in FY 2008-09. The basis for recommended projects is the combined result of in-house facility condition assessments, performed annually, and standard building system lifecycles. Projects are divided into five-year sectors, with primary emphasis given to requirements during the first period. The most recent facility condition assessment is provided as Appendix A.

While project cost estimates have not been submitted along with this summary, the annual investment required to implement a rigorous capital asset management program which would fully fund such needs and eliminate deferred maintenance is provided in Appendix B. The model for this investment requirement is the American Physical Plant Association's (APPA) recommended average of 3 % of current building replacement value. Considering appropriations of $1,833,143 for maintenance operations in FY 2007-08, and a corresponding allocation of $736,000 for debt service on capital renewal projects, the current shortfall to maintain physical plant assets and eliminate deferred maintenance at USC Aiken is approximately $820,915 annually.

Deferred Maintenance and Renewal Projects (FY 2008-2013)

Below is a list of the University's top five deferred maintenance priorities for the upcoming five year period.

1. **Chiller Overhaul** (Science Building) – USC Aiken's 60,000 square foot Science Building is served by a single oversized chiller. Vibration analysis has recently revealed that the main thrust bearing on this 18 year old chiller is fast approaching the point of failure. To avert a catastrophic breakdown, the unit must be overhauled. If additional funding becomes available, the University may opt for

replacement of the entire unit (with two smaller chillers or a single chiller system with two compressors) to increase plant reliability and efficiency.

2. **Fire Protection and Alarm System Upgrades** (Penland, B&E, H&SS, Etherredge) - The campus has recently upgraded the Library fire alarm system and is replacing the fire protection equipment in the Student Activities Center concurrent with a major building renovation. Similar upgrades are necessary in four major academic buildings: Penland, Humanities & Social Sciences, Etherredge Center and the Business & Education building. Although the systems in each of these buildings are functioning as originally designed, they fall considerably short of contemporary standards and life safety codes. In particular, the systems in the Penland and H & SS buildings are more than 30 years old. In addition to limited repair parts availability, problem areas include deficiencies in electronic signaling, alarm and strobe coverage, smoke detector placement, enunciator capabilities, and fire sprinkler coverage.

3. **Electrical Distribution Upgrades** (Exterior Infrastructure) – High voltage underground switch gear and bus ducts are extremely difficult to service due to confined space conditions, water infiltration and lack of accessibility. Local utilities refuse to consider a service contract on this equipment due to equipment age and inherent safety concerns. To ensure long-term reliability of electrical distribution systems the University needs to replace this equipment with above ground stations that can be properly maintained by a qualified electrical service provider.

4. **Elevator Renewal** (Penland, Library, H & SS) - The institution's fourth deferred maintenance priority is the replacement of elevator systems in the Penland, H&SS and the Library. Each of these academic buildings has only one elevator, all of which are more than 30 years old. Repair parts are obsolete resulting in increased downtimes and growing concerns about accessibility for persons with disabilities.

5. **Interior Refurbishment** (Business & Education Building) – Fifteen years old, the Business and Education classroom building is seeing the effects of general wear and tear on interior finishes including floor coverings and wall systems. Replacement of these finishes is required to maintain functionality and avoid physical deterioration.

To appropriately address capital renewal needs, the following additional projects are required during the first five year sector:

6. **Cooling System Projects** (Penland, Etherredge) – Replacement of a 36 year old cooling tower for the Penland classroom and administration building and replacement of the original air conditioning system, including chillers, compressors and controls, in the 24 year old Etherredge Center for visual and performing arts.

7. **Interior Renovations** (Natatorium) - Renewal of painted surfaces including decks and walls, along with replacement of metal hardware and other equipment which have experienced premature failure due to continuous exposure to the corrosive effects of a chlorine environment.

8. **Interior Renovations** – (Penland/H&SS) – Interior revitalization and adaptive reuse of offices, classrooms and common areas to meet modern program demands. For the Penland Building this project would include replacement of the air handling system and ductwork.

9. **Demolition and Replacement** – (Trailer #2/Tennis Courts) – Replacement of ten tennis courts to support athletic practices and competition for men's and women's tennis programs. Exterior coating systems are being repaired and resurfaced once every four years due to subsurface failure and moisture infiltration. The 35 year old tennis trailer is also beyond its useful life.

Future Years

Given appropriate funding, the following deferred maintenance and renewal projects should be accomplished in the appropriate five year sector, based on predicted lifecycle replacement needs:

FY 2013-2018

Roof Projects (Science, Child Care, Pickens Salley, B & E, Maintenance)
HVAC Projects (Science, Child Care, Pickens Salley, B & E, Maintenance)
Interior Renovations (Science, Child Care, Pickens Salley)
Demolition and Replacement (Softball Field/Trailer #2)
Adaptive Reuse (Maintenance and Supply Building)
Exterior Infrastructure (Parking Lots/Sidewalks)

FY 2018-2023

Roof Projects (Penland, Natatorium, Ruth Patrick, Nursing, Student Activities)
HVAC Projects (Ruth Patrick, Nursing, Natatorium)
Interior Renovations (Ruth Patrick, Nursing, Etherredge Center)
Elevator Renewal (Business and Education)

FY 2023-2028

Roof Projects (Library, H&SS, Baseball, Soccer, Pacer Commons, Convocation)
HVAC Projects (Penland, Library, SAC, H & SS, Baseball, Convocation)
Interior Renovations (Library, Pacer Commons)

Appendix C provides a matrix of the above projects sorted by building.

Conclusion

There is little doubt that insufficient funding of the aforementioned projects would over the long-term increase the likelihood of building system and equipment failures. Because such failures are accompanied by disruptions to mission essential programs, heightened risk to personnel health and life safety, deterioration of campus appearance and accelerated depreciation of capital assets, it is the University's goal to adhere to the above plan as much as feasible. However, to fully realize a goal of properly funding capital assets and eliminating deferred maintenance, USC Aiken would require a 5 % tuition increase dedicated to deferred maintenance and capital renewal. Considering other pressing program needs, the requirements for additional State appropriations to support this effort and minimize a tuition impact is paramount.

Approved by:

_____

Ms. Virginia Steel Hudock, Vice Chancellor for Business and Finance

_____

Dr. Thomas L. Hallman, Chancellor

Primary Contact: Anthony J. Ateca, Assistant Chancellor for Facilities Management
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University of South Carolina – Beaufort
2007 E&G Deferred Maintenance Plan

This plan is formatted to reflect the 10 key elements outlined on page two of the 2007 CHE Institutional Deferred Maintenance Plans for Educational & General Facilities document. (All dollar values are based on year 2007 dollars and the existing State provided facilities replacement values. These dollars are subject to economic inflation.)

1. General Information.
   b. Contact Person: Mike Parrott, Facilities Director
   c. Years Covered in the Plan: 2007 to 2027
   d. Date Submitted: September 18, 2007

2. Average Annual Investments Needed.
   a. To keep DM for existing E&G facilities from growing: $393,321
   b. To reduce existing facility DM to an acceptable amount in 20 years: $100,758
   c. To Address existing external infrastructure needs of the institution: TBD in 2008.

3. Facility Composition.
   a. USCB facilities present two distinct challenges regarding how to properly address deferred maintenance needs. The north campus facilities in Beaufort range in age from 23 years to149 years. Those facilities contain academic, library, administrative, research laboratory, and teaching laboratory spaces. Two facilities are listed on the National Register of Historic Places and a third was constructed circa 1875.

All facilities on the south campus are less than five years old. These facilities offer spaces for academic, student services, library, central support, administrative, research laboratory, and teaching laboratory needs. The obvious goal there is to prevent deferred maintenance from accumulating.

4. External Influences.
   a. Changes to the exterior of buildings in Beaufort are subject to the approval of the City of Beaufort Board of Architectural Review.
   b. Changes to the exterior of buildings on both campuses are subject to the approval of the Beaufort County Corridor Review Board.
   c. Exterior and interior changes to properties listed on the National Register of Historic Places are subject to State Historic Preservation Office approval.
   d. We must comply with the Beaufort County zoning ordinances which become broader in scope over time.
   e. USCB owns a unique research facility on a pristine, secluded barrier island. This island is accessible only by boat and inland waterways. Thusly, maintenance and construction costs for this facility are at least 30% higher than normal.
   f. These additional requirements, reviews and approvals add cost to affected work, and that additional cost is not accounted for in the facility replacement values which are used to calculate deferred maintenance in this plan.

5. Summary by category of the major system problems for facilities with scores of 50 or below:

a. No USCB facilities have a current condition code less than 50.

6. Life safety issues, citations and/or warnings, and compliance issues.

a. Not all of our facilities are ADA accessible. The most costly deficiency is the absence of an elevator in the two story Performing Arts Center that serves as the main classroom building on the north campus. Bringing facilities into ADA compliance is not accounted for in the facility replacement values used to calculate deferred maintenance in this plan.

7. Infrastructure will be addressed in the 2008 plan submission.

8. Infrastructure will be addressed in the 2008 plan submission.

9. The top three priorities for the first year of this plan (and why) are:

a. **Performing Arts Center Renovation -** The Performing Arts Center is a former elementary school, renovated in the late 80's for use by USC Beaufort to provide 39,000 ft² of academic space. The building has an auditorium seating 473, 12 classrooms, 16 faculty offices, a chemistry lab, a computer lab and support spaces.

The project will consist of:
Fire sprinkler system installation
Emergency generator to replace old battery system
Wood floor underlayment replacement with new floor coverings
Window replacement
Auditorium lighting and sound system upgrades
Accessibility upgrade to include an elevator
Information technology

Total Project Costs will be $4,000,000.

b. **Marine Science Building Renovation** – The Marine Science Building contains two instructional and research laboratories, a classroom, and faculty office spaces. The facility was constructed in 1983 and has not renovated. The laboratory spaces are antiquated, the roofing and windows need to be replaced, the interior spaces need to be modified to make better use of the limited space, the saltwater supply system is not functional, and the building finishes are worn. The project to renovate the facility will cost $850,000.

c. **Grayson House Renovation** – The Grayson House was built in 1942, contains 2,225 ft² and provides much needed faculty office space on the north campus. The Roofing, windows, HVAC, and finishes need to be replaced. At some point in the building's past a porch was converted into an interior space that works but should be modified to properly convert the use of the space. Costs for this project will be $350,000.

10. Additional Information.

It is no surprise that deferred maintenance continues to spiral out of control at most higher education campuses around the State. Annual funding continues to lag behind needs and the gap is growing. Funding resulting from the MRR calculations is down to 54% at USCB. Funding for capital renewal projects only possible through state legislature allocated capital improvement bonds have been non-existent for the past seven years.

USCB used the 2005 deferred maintenance funds to satisfy critical needs on the north campus but USCB's relief was less than $300K. Real deferred maintenance reductions are not possible without more significant investments.

End of Plan.

ANNUAL DEFERRED MAINTENANCE PLAN
USC UPSTATE
JULY 2007

1. General information:
   - name of institution – **USC Upstate**
   - name of contact person (for questions related to the plan) – **F. D. Puncke, Jr., Director of Facilities Management, 864-503-5500**
   - the years covered in the plan – **starting July 2007**
   - date submitted – **July 31, 2007**

2. The amount needed per year to maintain existing E&G facilities, eliminate deferred maintenance, and to address external infrastructure needs of the institution. This will be based on the calculation method described above. The plan will cover a 20-year period – **$3,212,326 – details are attached.**

3. The major functions of the facilities being addressed in the plan (i.e. academic, administration, student services, library, etc.) – **See attached.**

4. The potential external influences to consider when implementing this plan. (For example, historic buildings on the national register, city or county ordinances?) How the institution plans to work within these external mandates?
   - **There are no major external influences of this type to consider, other than meeting applicable codes and coordination with the Spartanburg County Commission for Higher Education. The CHE reviews and approves sites for new construction of facilities, participates in selection of design firms for major projects, and approves any actions relating to the grounds, roads, walks, or other external appearance of the facilities and grounds.**

5. For buildings with a condition code of 50 or below, an explanation of the major system problems.
   - **There are no facilities with a condition code of 50 or below.**

6. Any life/safety issues, citations and/or warnings, and compliance issues (air, ADA, etc.) that are present in the facilities.
   - **Several buildings have some of these issues – see the attached list.**

7. The process the institution used in estimating the replacement cost for external infrastructure.
   - **We have only begun the process of determining costs associated with the external infrastructure. To date, we have worked with Duke Energy regarding the underground primary electrical distribution system and street and parking lot lighting costs; various contractors and design firms regarding sidewalk, road, and parking lot costs; USC Columbia high voltage electrical shop personnel to inspect high voltage transformers; and similar inspections by appropriate means. These inspections have**

been conducted mainly to identify areas where work is necessary to ensure our systems are safe.

8. The process the institution used in estimating the cost for bringing external infrastructure to like-new condition.
   - **We have not begun estimating detailed costs for external infrastructure replacement or other action to bring them to like-new condition yet except for projects that we are accomplishing as part of normal maintenance. We expect to use the same procedures to estimate deferred maintenance – local utility companies, design and engineering firms.**

9. The institution's top three to five priorities for the first year of the plan and the rationale for their selection.
   - **The top priorities are related to replacing the air systems in the Library Building and Administration Building, in conjunction with correcting the electrical systems and ADA and other codes requirement deficiencies. This work is needed for the safety of those in the facilities, to reduce repair expenses (the systems are so old that parts are difficult to find and sometimes have to be manufactured), to reduce expenses for renting supplement air conditioning units in the summer, and to ensure the facilities can be used as they were intended.**

10. Any additional information as necessary.
   - **All facilities are inspected on a recurring basis to identify maintenance and repair work that is necessary. The work is accomplished if funding is available, and deferred if not. In addition to recurring inspections, the formal periodic inspection for the State CHE is conducted and information submitted as requested.**
   - **In the mid 1990's, a roof maintenance plan was developed to address roof maintenance and repair or replacement. Through execution of this plan, roofs have been replaced as necessary mostly using funds generated from student fees, and prevented major roof work from being deferred.**
   - **In the past five years, we have developed, and continue to add to, detailed preventive and planned maintenance plans for various systems (HVAC, electrical, water, etc.) in our facilities. By increasing the attention to planned maintenance, we have reduced the frequency of system breakdowns and better identified major system issues for major funding. Due to costs, many of these major issues are the ones that have been deferred.**
   - **Most of the funds collected from student fees for facility related use are devoted to planned and preventive maintenance, and to reduce deferred maintenance for small projects. Some major projects have been funded, but with much of our student fee generated funds being diverted to necessary capital projects (for lack of State capital funding), the amount available for maintenance is reduced. We carefully weigh decisions**

regarding spending for capital, maintenance, or reducing deferred maintenance with this source of funds.

WINTHROP UNIVERSITY
PLAN TO ADDRESS DEFERRED MAINTENANCE (DM)

Date of Report: September 7, 2007

Key Elements

1. General Information:

- Contact Person: Walter Hardin, Associate Vice President Facilities Management, email: hardinw@Winthrop.edu
- Years Covered: FY 2007-08 through FY 2027-28 (20 years)

2. Amount Needed per Year (see attached 2007 CHE Worksheet):

- **$9,197,574 ($7,455,829 Capital Renewal + $1,741,746 Deferred Maintenance)**

Winthrop University annually commits approximately $1 M over and above maintenance and repair to Deferred Maintenance projects. Some deferred maintenance has been addressed through capital improvement projects to repair and renovate facilities. There remains a huge gap between available funds and those needed to eliminate our deferred maintenance in 20 years. This deficit needs to be addressed through a State Capital Bond bill or other external fund source.

3. Major Functions of Facilities Addressed in Plan:

- Academic
- Administration
- Library
- Student Services
- Athletics

4. External Influences Impacting Plan:

- Number of Buildings (21 E&G buildings > 10,000 GSF, 34 E&G buildings < 10,000 GSF)
- Age of Buildings (91% of buildings > 10,000 GSF are over 33 years old. Historic Buildings
- Regulatory Issues
- Absence of State Capital Bond Bill

The absence of a State Capital Bond Bill since FY 2000 with funding for DM projects has forced the institution to dedicate the majority of internal capital funds to indoor air quality issues, regulatory compliance, building new facilities, or expanding existing facilities to meet the needs of the University Master plan and Mission thus deferring capital renewal. Without State Capital Bond Bill funding, the age of many of our major buildings coupled with their older architectural designs makes the cost of capital renewal often untenable.

Winthrop's high percentage of aged facilities creates unique maintenance challenges and deferred maintenance nightmares. We have high ceilings and wide hallways which were designed for early 20th

century ventilation. Most of our buildings are masonry and wood with slate roofs. This too creates unique situations in maintenance, renovation and repairs.

Thus new facilities and/or expansions compete more favorably for the limited internal capital funds as well as gifts. Regular biennial capital bond bills that fund significant amounts of capital renewal are essential to good stewardship of the State's higher education E&G inventory.

Winthrop University operates both a Central Chilled Water and Central Steam Plant for campus utilities. We also own and operate all of the electrical plant (high voltage distributions system) domestic water, storm water, sewer lines as well as underground back bones for voice, data, control systems and fire alarm system. All of these "life lines" are not included in any of the RCB or deferred maintenance figures.

5. Buildings with Condition Code of 50 or Below:

Winthrop's signature building, Tillman Hall, circa 1894, rated a 38 on the building index code. This masonry and wood facility is also on the National Historic Register. The RCB for Tillman is $17,335,587 for its 120,000 square feet. This figure would not even approach replacing it. We have $6.7 million to make improvements to the roof, windows, electrical systems and indoor air quality. This will be a drop in the bucket on funds needed to restore this facility.

6. Life Safety/Compliance/ADA Issues:

A significant number of our pre-1985 major E&G facilities that have not undergone a major renovation have indoor air quality issues and consequently these buildings are our highest priority for available HVAC renovation funds second only to exterior envelope deficiencies. Most of these buildings do not have a system which provides conditioned outside air and are therefore substandard compared to the current ASHRAE code. Supplying conditioned outside air to old two pipe fan coil facilities can run as high as $1.5 million each. Most of our complaints are about mold and indoor air quality. Many of these same buildings have old three way valves in the basement mechanical rooms and need to be reconfigured for more efficient use and flows of our chilled water supply. Many of our older academic buildings had sprinklers added in the 30's and 40's and are in need of head replacements. Winthrop adds handicap doors each year as funds are available and areas are identified.

7. Estimating Replacement Cost for External Infrastructure:

Providing an estimate for the replacement cost of external infrastructure and the estimated cost to bring the external infrastructure to like-new condition have been postponed until next year's plan. Winthrop University has a significant amount of external infrastructure including roads/hardscape/lighting to extensive overhead and underground utilities including an extensive underground steam distribution system. Winthrop desperately needs a Utilities Master Plan effort with one deliverable that will include an estimate of the major maintenance backlog for our extensive above/below ground electrical distribution system, chilled water and steam piping issues. From these efforts we hope to develop both a replacement value and a backlog of major maintenance projects for all external infrastructure. Sanitary and storm sewer along with potable water and roads and grounds will be estimated using measured quantities multiplied by unit prices found in the current estimating manuals. Although Winthrop has improved some major central systems with a series of Performance Contracts for Energy Conservation, we have no choice but to fund the repair of major utilities as a result of a failure. We have dedicated significant funds in the last six years to resurface many of the extensive campus roadways. Winthrop also has over ten miles of concrete sidewalks. There are always sidewalk repair opportunities.

8. Estimating Cost to Bring External Infrastructure to Like-new Condition:

See response in Key Element #7 above.

9. Top Priorities for the First Year of the Plan with Rationale:

Top priorities are 1) seeking funds for the HVAC upgrades of Kinard Hall, Johnson Hall, McLaurin Hall, Rutledge. These upgrades must include converting three way valves to two way and adding conditioned outside air to improve indoor air quality 2) developing a priority list for capital renewal projects dedicated to underground utilities and funding at least number one on the list, 3) continuing select renovations in various buildings at the opportunity presents itself to keep up with the current program changes and demands 4) completing energy saving projects such as our new electrode boiler and high efficiency gas fired back ups 5) continuing efforts to get external funding for major maintenance and renewal projects. These priorities arise from our need to provide the campus constituency a safe environment, respond to growth and follow our Mission and Master Plan. We recognize that the institution must have supplemental external funding to meet the annual need identified in Key Element #2 above.

10. Additional Information:

Winthrop appreciates CHE's continued commitment in recognizing the importance of minimizing the accumulation of Deferred Maintenance. However, it is equally important that Winthrop be able to invest in new facilities where required in response to new grant opportunities, program expansions, and address shortages in all classifications of E&G space. In fact, a shortage of space in particular can be a roadblock to effective capital renewal. Winthrop is looking to CHE for continued support of our requests for State funding in both of these important areas.

While this plan is titled Institutional Deferred Maintenance Plan, it must be recognized that more than two-thirds of the Total Need identified in the CHE calculation is "capital renewal" instead of "deferred maintenance". Also, since the building condition code (BCC) reflects deficiencies that are upgrades and not renewal or maintenance (ex: lacks an elevator or fire alarm system), the actual deferred maintenance portion of the Total Need may be overstated in some buildings.

It is very difficult, even impossible for any institution to make effective plans when there is no reliable source of funds or income. Winthrop has made great strides in the last ten years addressing roofs, HVAC systems, windows (with help from the State we have replaced windows in 20 major buildings) exterior trim, high voltage electrical systems and the like. This was done with a commitment from the very top to make sure we have a quality environment for our students. However, even with this sizeable commitment, deferred maintenance grows as buildings and systems age. In dealing with deferred maintenance, there is no finish line. Therefore, our collective deferred maintenance is going to grow unless we get help from the State in the form of better funding of annual maintenance and some form of annual deferred maintenance assistance. In spite of our best efforts all state institutions beg, borrow and steal to maintain their facilities to the best of their ability. However, until there is consistent and systematic funding for deferred maintenance we will continue to be forced to fix what breaks.

As mentioned briefly above, a very real roadblock to effective capital renewal is the inability to vacate a building during an extensive renewal project. Most institutions are in this situation whereby all available space is fully utilized. Without surge space, major maintenance, upgrades, and renewals must be carefully chosen and tailored to avoid disrupting the primary missions of a university. The results are more numerous

projects, more expensive projects, postponement of projects, and re-prioritizing projects based on access rather than need. Integral to an effective plan to address deferred maintenance and capital renewal, is the availability of surge space specifically designed to accommodate temporary relocations of classrooms, offices, and labs during major project-level maintenance.

USC Lancaster
2007 Deferred Maintenance Plan

Contact: Thomas Fox, Facilities Director Phone: 803-313-7040

USC Lancaster's Deferred Maintenance Plan addresses our most serious deferred maintenance needs and prepares spaces for mission critical campus programs and activities. Due to lack of adequate funding in recent years, the condition of some campus facilities has deteriorated as key building components have reached and exceeded their expected useful life. Existing facilities at USC Lancaster require substantial renovations and repairs. The renovation of building space must be carried out to prepare spaces for academic and other uses.
USC Lancaster conducts routine maintenance on all campus facilities. However, we are unable to fund major renovations and deferred maintenance projects from our campus operating budget. Renovation projects, included in our plan, will allow our campus to address some of our major deferred maintenance needs.

Updates to HVAC systems must be completed to improve air quality for building occupants. Recirculated stagnant air, mold and mildew have rendered Hubbard Hall unhealthy, uncomfortable and inadequate for continued daily use. Hubbard Hall HVAC replacement will commence in May 2008 and will be financed from accumulated state appropriations. However, the Gregory Health and Wellness Center and the Dowling Health Services Building require significant HVAC upgrades.

USC Lancaster continues to see double-digit enrollment growth. There has been a 33% increase in enrollment over the last 5 years. During 2006, approximately 80,000 new residents moved into the greater Charlotte region which includes Lancaster County. Demand for entrance to USC Lancaster is expected to grow even faster in the coming years based on population growth and the USC Unified Admissions Policy. Consequently, the campus needs to insure that all space is in good condition and suitable for its intended use.

First priority - <u>CAMPUS RENOVATIONS</u>

This project is needed to bring the facilities to current health and safety standards. HVAC systems must be renovated. This project, included in the first year of our plan, addresses the major deferred maintenance and renovation needs of our campus. The project includes renovations to Gregory Health and Wellness Center, Hubbard Hall, and the Dowling Health Services Building. The project reflects the most critical needs of the Lancaster campus and will provide spaces which meet the current needs of the campus.

These facilities have very serious deferred maintenance needs. Recommendations from an energy audit conducted by the State Energy Office, will be implemented. This work will include the replacement or updates to HVAC systems in the Gregory Health and Wellness Center and the Health Services Building. Other energy conservation measures will also be provided in this project. Past inspections by the South Carolina Department of Health and Environmental Control (DHEC) have pointed out serious concerns in the pool area of the Gregory Health and Wellness Center. Safety around the pool area is a major concern. The project will include the replacement of the pool deck and other immediate needs. In Hubbard Hall, Stevens Auditorium and other areas will receive carpet replacement, painting and upgrades to lighting. It is anticipated that some asbestos removal may be required as well.

This project is needed to address long-deferred maintenance. Continued deferral of major system renovations will only increase the eventual costs of repairs. It is imperative that campus facilities meet current health and safety standards.

Second priority – GREGORY HEALTH AND WELLNESS CENTER RENOVATION

This facility was constructed in 1981 and no significant renovations have been performed since that time. This project will include significant interior repairs, including wall repairs, ceilings, floors, painting and extensive repairs to the window wall in the pool area. Major renovations are needed in the pool area. Walls, ceilings and exposed interior bar joists must be repainted.

Current demand for health and wellness services exceeds the capacity of the facility. Therefore, it is critical that all areas be in good usable condition. This project is needed to bring the facility up to acceptable standards which meet the current needs of the campus

Third priority – MEDFORD LIBRARY RENOVATION

This project will provide for the renovation of the original 24,000 square feet of Medford Library, constructed in 1974. This work will include the removal of the deteriorating exterior brick veneer and precast panels and replacement to match the recent building expansion. Engineers have evaluated the present facility and determined that the brick veneer and precast panels on the exterior walls must be removed and replaced. The project will include asbestos removal, HVAC renovation and major structural repairs. Interior walls, ceilings and flooring must be replaced and electrical systems upgraded.

This project represents approximately 24,000 square feet of space that must be renovated to meet critical space needs at the Lancaster campus. This project will bring areas up to the same standards as the recent addition. This renovated space will provide space to meet the current needs of the Library, classrooms and student services.

USC SALKEHATCHIE DEFERRED MAINTENANCE NARRATIVE

As indicated on the attached spreadsheet, several of the buildings at USC Salkehatchie are rated below 50 on the CHEMIS building condition code. These buildings are addressed as follows:

1. Central Classroom Building (Code 38). This is the main classroom building of the Allendale campus. The major problem with this building is the lack of wall and ceiling insulation. Moreover, this building is not centrally heated and cooled leading to a lack of efficiency in energy consumption.
2. Maintenance Center (Code 37). The main building for maintenance on the Allendale campus, this building is in need of a roof replacement and other structural improvements.
3. Hut Complex (Code 40). Currently this building is not in use due to the near collapse of the roof. Subsequent substantial structural problems occurred as a result of this problem. Estimates to repair all of the problems in this building total $90,000 to $110,000.
4. Admissions (Code 28). It is difficult to understand why this building is rated at "28" since the roof has been recently replaced and vinyl siding installed. This building is structurally sound.
5. Graduate Admissions (Code 41). The building is in need of roof replacement and some structural improvements.
6. Grad Admission Annex (Code 38). Needs roof replacement and central HVAC.
7. Art Annex (Code 32). This facility is in need of painting, roof replacement, landscaping, and central HVAC.
8. Theatre (Code 34). The campus has recently received a large grant from USDA to renovate this facility. Over $350,000 will be allocated for this purpose.
9. Library/Computer Science (Code 42). One of the newest facilities on campus, built in 1991, this building has several critical needs. The entire roof of this facility needs replacement, waterproofing needs to be applied, and a complete replacement of all windows is necessary.
10. Bookstore Student Center (Code 39). This building has been removed from service.

It also needs to be noted that some buildings have been left off your list. For example, the Gymnasium and the Liberal Arts Building on the Walterboro campus are excluded.

Additionally, even though the Science/Administration building scored higher than 50, it is in desperate need of a complete roof replacement.

The top three priorities of the campus for the first year are as follows:

1. Roof Replacement in Science/Administration Building. This building has had roof problems for several years and each year the cost to repair escalates.

2. Central HVAC for Central Classroom Building on the Allendale campus and the Walterboro Main Building. Both of these buildings are the main classroom facilities on both campuses and are heated and cooled by individual room units. These room units are very inefficient and noisy resulting in a less than adequate learning environment.
3. Roof Replacement for Library/Computer Science Building. Again, this roof has caused the campus to expend numerous resources for the past several years to repair leaks.

Respectfully submitted by:

Larry S. West
Asst. Dean for Budget, Finance, and Facilities
USC Salkehatchie
Allendale, SC 29810

E&G Deferred Maintenance Plans

Institution: USC Sumter
Contact Person: Bruce K. Blumberg
Years Covered in the Plan: FY08 - FY27
Submitted: August 9, 2007

I. Additional Funding Per Year to Maintain and Eliminate Deferred Maintenance

Building	Total Funding Per Year to Maintain and Eliminate Deferred Maintenance	Function of Facility
Administration	$130,107	Institutional Support
Business Administration	$62,338	Instruction
Science	$99,523	Instruction
Anderson Library	$243,620	Academic Support
Student Center	$45,606	Student Services
Schwartz	$71,930	Instruction
Nettles	$190,769	Student Services
Arts and Letters	$87,500	Instruction
TOTAL	**$931,394**	

II. Buildings, Their Condition Codes, and Major Systems Problems

A. The Science Building (code 54) has the lowest condition code on campus. The facility was built in 1965. Improvements to bring the laboratories into ADA compliance were difficult due to the existing infrastructure. Laboratories in a university campus should at the very least be able to keep up with those of local high schools. The building in general also needs internal ADA upgrades, particularly in the restroom.

B. The Business Administration Building (code 61) was also built in 1965. It has only one ADA compliant access point, ADA related restroom issues, and the HVAC system was installed in 1990.

C. The Student Center (code 66) was constructed in 1975. It is in dire need of a new HVAC system, and new windows that are more insulated and energy efficient. The building has sufficient ADA access points but needs to upgrade internal accessibility, particularly in the restroom facilities.

III. Life and Safety Issues - Funds are required for the following:

A. Campus Security and Safety

1. USC Sumter needs to increase it's security efforts with additional security personnel, surveillance cameras, fencing, and external lighting.

2. USC Sumter needs to increase ADA access issues campus wide by adding additional building access points as well as internal facility improvements, particularly restroom upgrades.

3. USC Sumter needs to provide portable defibrillators in each building and provide training for relevant personnel.

IV. USC Sumter's Top Priorities For The First Year of the Plan

A. Campus Security and Safety as Outlined Above in Section III.
Rationale: In terms of ADA issues, our strategy is to start with the oldest buildings first. Also, due to recent events (i.e., Virginia Tech) campus safety measures must be improved.

B. As much Deferred Maintenance as can occur**.** Rationale: We will start with the worst problems in the oldest buildings first and work our way up.

V. USC Sumter's Top Priorities For Years Two and Beyond

A. Construction of a new Instructional Laboratories Building

B. Deferred Maintenance

C. Renovation of the Old Science Building to convert old laboratories into classrooms (can happen only after the construction of the Instructional Laboratories Building.)

D. Construction of a Facilities Management Center (which includes vacating part of the Student Center)

E. Student Center Phase II

USC Union
Deferred Maintenance Plan

August 3, 2007

Years Covered: 2008 - 2012

Contact Person: Michele S. Lee
Business Manager/Budget Director
USC Union
PO Drawer 729
Union, SC 29379
864-427-3681 (phone)
864-427-3681 (fax)
michele@gwm.sc.edu

Total Needed (per year) to Maintain
and Eliminate Deferred Maintenance: $245,712.00

Facilities:

1. Main Building — Constructed 1909
401 E. Main Street — Renovated 1992
Union, SC 29379 — CHEMIS Building Code: 79

Major Functions of Facility: Academic Classrooms, Faculty Offices, Campus Bookstore, Auditorium

2. Central Building — Constructed 1891
309 E. Academy Street — Renovated 1980
Union, SC 29379 — CHEMIS Building Code: 80

Major Functions of Facility: Academic Classrooms, Library, Administrative Offices

3. Truluck Activities Center — Constructed 1969
101 North Church Street — Renovated 2001
Union, SC 29379 — CHEMIS Building Code: 98

Major Functions of Facility: Gymnasium

4. Maintenance Shop — Constructed 1989
309 E. Academy Street — CHEMIS Building Code: 89
Union, SC 29379

Major Functions of Facility: Workshop and Office

Top Priorities

1. HVAC System Upgrade/Replacement (Central Building):

The campus' Central Building has climate control problems that have resulted in mold growth and poor air quality. In August 2006 USC Union had a third party conduct a "Building Performance Assessment" to assess the air quality of the Central Building. The report (a copy is attached) notes the following:

"Action Suggested" for airborne particles' levels as they are "improvable"
"Action Necessary" for temperature, as it is "too cool for most people, temperature fluctuations somewhat high"
"Action Necessary" for relative humidity, as it is "too moist, which increases the risk of mold growth in the building"
"Action Necessary for "Building Thermal Insulation" as the "insulation of building structure poor compared to most other buildings"

The Library, which is located in the Central Building, has experienced the most damage from moisture/mold problems. Portions of the book collections have been damaged due to the mold growth and the ceiling tiles have suffered damage due to excessive moisture in the area. Dehumidifiers have been utilized throughout the Library to control the moisture problems, but they do not work well enough to keep the problem under control.

2. HVAC System Upgrade/Replacement (Main Building):

The existing unit in the campus' Main Building is too small, noisy, requires continual maintenance and repair, and has a tendency to malfunction during special events (Commencement, Awards Evening, etc). Currently, the campus is using limited maintenance funds to address the most immediate maintenance needs for the system in a piecemeal manner. Additional portable air conditioning units had to be purchased to be used for "emergency" cooling situations. Our campus has experienced increased enrollments over the last few semesters, making it necessary to utilize the auditorium for classroom space. However, the unit cannot be operated while people are in the auditorium because of the noise the unit makes. The learning environment becomes uncomfortable if the HVAC system cannot be operated during the classes.

3. Additional Deferred Maintenance Needs

Priorities 1 and 2 represent the most urgent needs on the USC Union campus. Below are items that are less urgent, but still need to be addressed.

Main Building: Carpeting and Interior Painting: This building was last renovated in 1992. Many of the walls and trim are showing wear and need to be repainted. The carpet is worn and "stretched" in high traffic areas. Termite Damage: There is also termite damage to many of the window sills on the 1st floor of the building. Parking Lot: The current parking lot for this building is not adequate for our growing enrollment. The lot needs to be reconfigured, repaved, and additional parking areas added from the vacant lot

adjacent to the area. Entrance Doors: The main entrance doors to the building do not operate properly nor do they provide adequate security for a college campus building.

Central Building: Carpeting: The carpeting throughout this building needs to be replaced. The Library carpeting is in the worst shape of all of the areas in this building. The carpet is "musty" and worn mainly due to the moisture control problems. The carpet in the other areas of the building needs to be replaced also. Painting: The interior and exterior of the building need painting. The last overall painting was done in 1988. Exterior Windows: The current windows are inefficient and need to be replaced. The majority of the windows have an irremovable dirty film between the panes, which affects the interior and exterior appearance of the building. Entrance Doors: The main entrance doors to the building do not operate properly nor do they provide adequate security for a college campus building. Parking Lot Resurfacing: The Central Building parking needs to be resurfaced with new water drainage areas added.

Truluck Activities Center: The Truluck Activities Center is the most recently renovated building on the campus. Currently, floor maintenance and covering are the areas that need the most attention. The floor is difficult to clean once it has been stained and the protective covering is very labor intensive.

Maintenance Shop: The most immediate need for the Maintenance Shop is a central heating and cooling system installed in the building. The shop is currently heated by space heaters and cooled by a portable cooling unit. The building also lacks sufficient insulation. The Maintenance Supervisor uses this building as a work area and an office. The lack of a proper heating and cooling system and adequate insulation makes it difficult to work productively in this area.

Aiken Technical College

Report on Deferred Maintenance

For Plan Years 2007 through 2027

August 3, 2007

Mike Duncan – Campus Engineer

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Report on Deferred Maintenance – August 3, 2007

Introduction

Facility maintenance competes for funding with other programs and is often deferred because appropriations are not available or were redirected to other priorities or projects. Deferred maintenance also goes unfunded because it is not immediately reported and frequently is not reported at all. This inattention can result in increased safety hazards, poor service to the public, higher costs in the future and inefficient operations.

The Committee on Higher Education (CHE) recognizes the magnitude of deferred maintenance for institutions of higher learning and continues to provide guidance on how to properly account for the unfunded maintenance costs.

The following report is provided to assist CHE in reviewing ongoing maintenance needs and assessing the magnitude of deferred maintenance. This report was developed utilizing the guidelines set forth in document “Institutional Deferred Maintenance Plans for Educational & General Facilities”.

100/200 A.J. Little Administration Building

The administration building has a total area of 42,086 square feet that is equally divided between classroom, administrative and student services functions. The total replacement value is estimated to be $5,093,489. The amount of funding necessary per year to maintain the facility and to eliminate deferred maintenance is $219,020.

Systems that require replacement due to obsolescence include the passenger elevator and the breezeway lighting system. A T8 fluorescent lighting upgrade is required for the breezeways that connect the administration building to the 700/800 Building and to the 300 Building. Rework of the breezeway suspended ceiling system and replacement ceiling tiles is also needed. The external brick masonry for the four stairwells is deteriorating and requires frequent repair to eliminate rain leakage which results in ceiling damage and mold. The five water fountains that provide drinking water require replacement. Electrical metering needs to be added to the incoming power supply to monitor changes in power consumption and peak KW. Also required is the addition of a back flow preventor for the water system.

Of the items listed above, the backflow preventer and passenger elevator are priority 1 concerns. The backflow preventer is a regulatory requirement and the replacement of the elevator is important due to the difficulty and increasing high cost of obtaining spare parts.

300 Building

The total area of this facility is 12,652 square feet. The space is comprised of classrooms and houses the heating and cooling systems for this building as well as the 100/200, 400, 500/600 and 700/800 Buildings. The replacement value is estimated to be $2,290,357. The amount of funding necessary per year to maintain the facility and to eliminate deferred maintenance is $74,436.

Systems that require replacement due to age and inefficiency are the two heating system boilers, supporting pumps and air handler. In addition, the pneumatic control system should be replaced with motor operated control valves. Replacement of these control valves would allow for the deletion of the control system air compressor. A T8 fluorescent lighting upgrade is needed to replace the existing lighting system to optimize energy efficiency. Rework the suspended ceiling system grid and replacement of ceiling tiles. Electrical metering is also required to monitor changes in power consumption and peak KW.

Replacement of the air handler is priority one. The air handler internal drain pan and bottom surface of the unit is rusting through and leaking condensate into the emergency drain pan. There is no secondary system available should this unit fail.

400 Building

This facility has a gross area of 22,341 square feet. This space provides area for classrooms, the academic and continuing education welding shops, refrigeration program and limited classroom and office space. Total replacement value of the building is estimated to be $2,807,748. The amount of funding necessary per year to maintain the facility and to eliminate deferred maintenance is $176,887.

The welding labs utilize three manual rollup doors and fume exhaust system that are original equipment and require replacement. Sections of the roof were patched during the life of the structure and now along with the roof cap require replacement. The air handling units above the suspended ceiling are worn and inefficient by today's standards. This involves the removal and replacement of the ceiling grid system along with the original T12 lighting and ceiling tiles. The interior of the structure requires complete renovation to the restrooms, all interior walls and floors. Electrical metering is required to monitor changes in power consumption and peak KW.

500/600 Building

This facility has a gross area of 25,298 square feet. This space houses the Industrial Technology, Automotive Program, Machine Tool Program and limited classroom and office space. Total replacement value of the building is estimated at $3,186,110. The amount of funding necessary per year to maintain the facility and to eliminate deferred maintenance is $224,620.

The shops utilize seven manual rollup doors and fume exhaust systems that are original equipment and require replacement. The roof system including the roof cap is at the end of life and requires replacement. The air handling units above the suspended ceiling require replacement. This involves the removal and replacement of the ceiling grid system along with the original T12 lighting and ceiling tiles. The interior of the structure requires complete renovation to the restrooms, all interior walls and floors. Electrical metering is required to monitor changes in power consumption and peak KW. The passenger elevator also requires replacement due to obsolescence and the high cost of obtaining parts.

700/800 Building

This facility has a gross area of 36,542 square feet. Total replacement value of the building is estimated at $7,651,569. The amount of funding necessary per year to maintain the facility and to eliminate deferred maintenance is $225,721. This facility houses the Academic Success Center, the ACT Testing Center, office and classroom space.

This facility requires minimal ADA compliance retrofit to include a wheelchair ramp to enter and exit the stage area of the amphitheatre. ATC currently utilizes a temporary

ramp when needed. Electrical metering is required to monitor changes in power consumption and peak KW.

900 Student Center

This facility has a gross area of 40,987 square feet. Total replacement value of the building is estimated at $6,366,567. The amount of funding necessary per year to maintain the facility and to eliminate deferred maintenance is $210,096. This facility provides space for the gymnasium, weight room, cafeteria, book store, offices and classrooms.

Deferred maintenance of this facility includes addition of a secondary boiler to improve summer heating efficiency and the replacement of HVAC pneumatic controls with motor operated valves, replacement of the faculty dining room window system, rework faculty dining room ceiling.

Of the items listed above, addition of the secondary boiler and pneumatic control system replacement are priority 1 concerns. The addition of a second, smaller boiler system is required due to the inefficiency of operating the existing boiler to temper classroom space during the summer months. This will result in lowering utility costs.

1000/1100 Dale Phelon Information Technology Center

This facility has a gross area of 37,597 square feet. Total replacement value of the building is estimated at $4,813,496. The funding necessary per year to maintain the facility and to eliminate deferred maintenance is $163,658.

1200/1300/1400 Health Science Building

This facility has a gross area of 50,948 square feet. Total replacement value of the building is estimated at $7,986,851. The amount of funding necessary per year to maintain the facility and to eliminate deferred maintenance is $275,545.

1800 CSRA Manufacturing & Technology Training Center

This facility has a gross area of 30,000 square feet. Total replacement value of the building is estimated at $4,260,601. The amount of funding necessary per year to maintain the facility and to eliminate deferred maintenance is $146,990.
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Solving the Problem of Deferred Maintenance – Setting Priorities

Setting priorities for deferred maintenance was accomplished utilizing the following criteria:

1. Codes and standards or enforcement agency orders requiring the work to be performed.

2. Risk associated with system failure.

3. Projects resulting in lower operations cost.

4. Projects that support academic priorities.

Conclusion

The problems of deferred maintenance will be with us long into the future. We are reassured, however, that this issue is well recognized and that the appropriate attention and awareness will be achieved. With stable and significant funding we will be able to manage our backlog and minimize, although not eliminate, the chance of a major problem having unforeseen consequences on the college's mission and operating budget.

Central Carolina Technical College
2007-2008 E&G Deferred Maintenance Plan

Years Covered by Plan: FY 2008 to FY 2027
Contact Person: Terry L. Booth
Date submitted: August 3, 2007

The total amount needed per year to maintain existing E&G facilities and eliminate deferred maintenance (over a 20 year period) is $1,210,502. The calculation of this deferred maintenance was provided by CHE and based on APPA standards, and is summarized by building in the following table:

Building	Replacement Value	Annual Amount needed to maintain	Annual Amount needed to eliminate	Total annual amount needed
F.E. Dubose	$9,543,874	$ 286,316	$ 9,544	$ 295,860
Main (100)	$6,479,930	$ 194,398	$ 12,960	$ 207,358
Technical (200)	$1,201,016	$ 36,030	$ 3,003	$ 39,033
Ind. Tech. (400)	$9.143,481	$ 274,304	$ 0	$ 274,304
LRC (500)	$6,177,777	$ 185,333	$ 0	$ 185,333
Health Science (600)	$4,245,690	$ 127,371	$ 2,123	$ 129,494
ETC (700)	$1,175,059	$ 35,252	$ 0	$ 35,252
Nat. Resources (800)	$ 293,776	$ 8,813	$ 3,232	$ 12,045
Shaw Center	$ 964,327	$ 28,930	$ 2,893	$ 31,823
Total	$39,224,930	$1,176,748	$ 33,754	$1,210,502

The detail spreadsheet that contains the actual calculations, including the CHEMIS condition code for each building listed is attached to this plan. Central Carolina Technical College does not have any buildings with a condition code of 50 or below.

The buildings included in the College's deferred maintenance plan (as listed in the chart above) are primarily academic buildings for instruction. However, there are offices included in each building for administration and student services; and the library is located in the LRC (building 500).

The College is not aware of any potential external influences or requirements (such as local ordinances) to consider when implementing this plan. There are no known major life/safety issues, citations and/or warnings, or compliance issues present in these buildings. However, the current Health Sciences building (600) is inadequate for existing health sciences programs (and applicable accreditation standards), and the College is working on obtaining funding for the renovation of a much larger building in downtown Sumter as a solution. Some modifications will need to be made to this building in order to increase the number and size of available science labs when the health science programs move downtown.

As noted in the table above, the College needs $1,210,502 to maintain existing E&G facilities and eliminate deferred maintenance over 20 years. The legislation that created Central Carolina Technical College specified that the four counties in the College's service area would provide for the operations and maintenance of physical facilities. Funds are not provided by the state for our

Central Carolina Technical College
2007-2008 E&G Deferred Maintenance Plan

Operations and Maintenance of Plant costs. Each year, the College requests funds from the counties in its service area (Sumter, Clarendon, Lee and Kershaw) for this purpose. The following table presents the FY 08 budget for the College's plant operations and maintenance, and the amount actually funded by the counties.

Description	*Total*
FY 08 Budget:	
Maintenance staff salaries and fringe benefits	$ 302,184
Custodial staff salaries and fringe benefits	252,526
Security staff salaries and fringe benefits	151,829
Utilities	397,627
Other contractual services	125,841
General repair	5,889
Office supplies	3,000
Fuel	1,000
Maintenance supplies	50,436
Janitorial supplies	34,674
Other supplies	5,785
Insurance	70,601
Renovation and repairs	400,000
Total FY 08 budget for Operation and Maintenance of Plant	$1,801,392
Funded by service area counties in FY 08	$1,179,132
FY 08 Unfunded Operation and Maintenance of Plant	$ 622,260

Because the counties do not fully fund the College's Operation and Maintenance of Plant budget, the unfunded amounts must come from other sources. Of the $622,260 unfunded budget for FY 08, $222,260 comes from student tuition, and $400,000 comes from the College's capital improvements fund. As directed by the Central Carolina Technical College Commission, the College sets aside funds annually for capital improvements. The average annual amount transferred to this fund has been a little over $750,000 over the past ten years. Because the counties in the College's service area have not adequately funded the College, this amount has been virtually the only resource available for all renovations, additions, improvements, bond payments, and maintenance, as well as equipment for the College, and has not been adequate to address all needs.

Approximately $450,000 of the total budget for Operation and Maintenance of Plant would be considered true facility maintenance. The remaining amount is comprised of custodial, security, utilities, insurance, renovations, etc.—expenses that do not help to reduce deferred maintenance. Therefore, the College has a shortfall in its maintenance/deferred maintenance annual budget of $760,502 ($1,210,502 calculated need less $450,000 actual budget).

Considering the lack of funding for maintenance, the College has a reasonable amount of deferred maintenance. If the College begins to receive annual funds for deferred maintenance,

we will contract with an engineer to assess the deferred maintenance needs of all our buildings and develop a prioritized list in order to spend the funds in the most effective manner. The building condition survey conducted by the College in early 2007 disclosed the following general findings:

- F.E. Dubose—window system needs replacement (original building)
- Main building 100—roof system needs work—possibly replacement; exterior wall system needs work
- Technical building 200—roof system needs work—possibly replacement; exterior wall system needs work; interior walls and ceilings need work; plumbing system needs some work
- Industrial Tech building 400—roof system needs work; window system needs repair or replacement; floors and ceilings need work
- Learning Resource Center building 500—exterior walls and roof insulation needs work; window system needs repair or replacement; heating and cooling systems need upgrades or replacement
- Health Science building 600—exterior walls and roof insulation needs work; window system needs replacement; electrical system needs upgrade; heating and cooling system needs upgrade or replacement
- ETC building 700—exterior walls and plumbing system needs some work
- Natural Resources building 800—exterior and interior wall systems need work; floor system needs work; doors and ceilings need work; plumbing and electrical systems need work; fire and safety systems need upgrading
- Shaw Center building 900—floor and ceiling systems need work; plumbing and electrical systems need upgrading

Based on the findings from the 2007 building condition survey and a building audit conducted by consultants in 2001, the College expects that the top priority for the first year if additional funding is received for deferred maintenance would be roofing and flashing for buildings 100, 200 & 400. It is expected that this one project would utilize all available funds for at least the first year. After that, the College would utilize the prioritized list developed by the engineer.

Florence Darlington Technical College
2715 West Lucas Street
Florence SC 29501

August 1, 2007

Harrison Ford, III
843-661-8231
Director of Physical Facilities

The following is the institution's deferred maintenance plans for educational and general projects for Physical Facilities. The replacement cost for the operation and maintenance of the building's content and infrastructure except for HVAC equipment was calculated by using engineering and contractor's estimates. Replacement and upgrades to a like new condition was determined by the estimated price for the materials and labor cost. The HVAC equipment was calculated by using past bids of the same equipment and contractor's estimates. Bringing HVAC equipment up to a like new condition was determined by the purchase price of the components plus estimated labor cost.

The institution's top HVAC priorities for the first year of the plan:

- The 7000 building's HVAC equipment has past its life expectancy. This is a two-story building with a chiller for each floor. The chillers are outdated and the energy consumption is very high. The chillers give major problems in hot weather due to coil condition and constant Freon leaks. The estimated costs to replace these systems are $620,000.00.
- The 200 buildings HVAC equipment has past its life expectancy. This building has individual heat and cool units for each classroom. The equipment is not energy efficient and has become unreliable. The equipment does not meet current building codes for air quality or fire safety. The estimated cost for replacement of this equipment is $230,000.00
- The 600 building has package rooftop equipment and hanging gas heaters for each classroom. Most of the package equipment is rusted out or has been disconnected for safety reasons. The estimated cost for replacement of this equipment is $132,000.00

The Institution's priorities for items (other than HVAC items as noted above) for a twenty year period is outlined and does not denote a priority per building because due to need, emergencies, the priorities will change for the individual buildings:

Bldg 100: Built in 1963, has a square footage of 21,252 square feet. This building was the first structure built and has not been renovated to meet today's standards. The roof was replaced in 2007, other than that, there have been only minor upgrades done to this building

- Upgrade Auditorium Room 115 - $100,000
- Upgrade Restrooms - $100,000 (2 restroom at $50,000 a piece as quoted by Vendor)
- Replace Carpet - $200,000 (All Offices thru out bldg)

Bldg 100

- HVAC Items: All items listed have past their life expectancy.

Air handling equipment	$30,000.00
Fan coil equipment	$32,000.00
6 - Floor model fan coils	$12,400.00
2 - Pump station and related piping	$18,000.00

The estimated cost to upgrade Building 100 is $492,400

Bldg 200: Built in 1963 and added on in 1973, has a square footage of 77,020 square feet. This building was the second structure built and has not been renovated to meet the needs of the Welding Lab Academy and a Roche Laboratory, otherwise the need for ADA and industry standards have not been kept up, also the moving of the Machine Tool Department will also require that several rooms be upgraded to meet today's standards. The roof has been patched but needs to be replaced; only minor upgrades have been done to this building

- Refurbish Rm 201 & 203 - $100,000 (Old Machine Tool Department)
- Old Lab 204 – Old Roche Lab - $50,000 (Possible Medical Class)
- Upgrade Restrooms - $150,000 (3 restrooms at $50,000 a piece as quoted by Vendor
- Add New Female Restroom - $100, 000 (Add a female restroom in Welding Lab vicinity)
- New roof - $250,000
- New Drop Ceiling @Hallway - $50,000
- Polish Concrete floor in Welding Lab, Rm 201 & 203 - $100,000 (Welding Lab is $35,000)
- Print Shop Addition - $200,000 (Julia Rogers)
- HVAC Items: All items listed have past their life expectancy.

12 Split units	$135,600.00
12 Hydronic heaters	$48,000.00
6 package units	$70,000.00

The estimated cost to upgrade Building 200 is $1,253,600

Bldg 300: Built in 1966, has a square footage of 14,992 square feet. This building had a new roof installed in 2007, and has had the carpet replaced with VCT in several rooms, otherwise than that, no other upgrades have been made. The need to meet ADA standards has not been kept up, especially since this building serves as the Canteen for the students.

- Upgrade Restrooms in Canteen Area - $100,000 (2 at $50,000 each)
- Upgrade Faculty Restroom @Hallway - $100,000 (2 at $50,000 each)
- Replace Carpet in Offices - $100,000
- Install canopy between Bldg 100 & 300 - $200,000
- HVAC Items: All items listed have past their life expectancy.

12 - Floor model fan coils	$36,000.00
2 - Rooftop package air conditioners	$18,000.00
3 - Building pumps and related piping	$12,000.00
Pneumatic air system	$8,000.00

The estimated cost to upgrade Building 300 is $574,000

Bldg 400: Built in 1967 and added on in 1986, has a square footage of 20,233 square feet. This building needs a new roof, and has had a major face-lift for the Library area, ie..., mold-mildew remediation, painting, and new carpet. The other areas of this building need the same type of things done, as well as the two-auditorium seating need to be repaired or replaced. The flooring, i.e., carpet needs to be replaced with VCT in several rooms. The need to meet ADA standards has not been kept up, especially since this building serves as the main hub for activities for the college utilizing the Fred C. Fore Auditorium for various activities.

Bldg. 400

- New roof - $365,000
- Room 402 Auditorium - $75,000
- Fred C. Fore Auditorium Upgrade - $100,000
- Classrooms 408 & 409 Upgrade - $75,000
- Restrooms - $100,000 (2 in the hallways @ $50,000 each)
- Classrooms 411 & 412 - $50,000
- Offices - $50,000
- **HVAC** Items: All items listed have past their life expectancy.

Library air handler	$75,000.00
Auditorium air handler	$65,000.00
Pump station/internal valves	$15,500.00
Pneumatic air system	$10,000.00

The estimated cost to upgrade Building 400 is $980,500

Bldg 5000: Built in 1976 has a square footage of 87,333 square feet. This building needs a new roof, and has been documented as having asbestos thru out this four-story building. The elevator is in need of replacement due to the age as well as having to be repaired several times due to water damage because of a busted HVAC line. The restrooms have not been brought up to ADA standards and the building is also the hub for the Student Activity Center as well as a Chic-Fil-A locale. There is a plan to relocate the IT Department from this building to a new location, the exact usage of the space has not been define, but there was a plan at one time to expand the existing Book Store that is location on the first floor of this building.

- Asbestos Abatement - $2,000,000 (Was 1.5 m in 2000)
- New Roof - $200,000
- Restroom Upgrades - $550,000 (11 restrooms at $50,000 each)
- Business Office Upgrade - $100,000
- New elevator - $375,000
- Book Store Upgrade - $500,000
- HVAC Items: All items listed have past their life expectancy.

Florence penthouse air handler	$300,000.00
Darlington penthouse air handler	$300,000.00
Pneumatic air system	$10,000.00
I-T room A/C replacement	$12,500.00

The estimated cost to upgrade Building 5000 is $4,347,500

Bldg 600: Built in 1984, has a square footage of 33,242 square feet. This building is part of a future plan to ad a Automotive Body Shop, and this building will be upgrade in it's entirety during this process, - Included as part of AUTOMOTIVE PROJECT – Curtis Davis Architect

-HVAC Items: All items listed have past their life expectancy.

7 - Packaged rooftop gas units	$90,000.00
14 – Hanging gas heaters	$42,000.00

The estimated cost to upgrade Building 600 is $3,882,000

Bldg 7000: Built in 1986, has a square footage of 43,375 square feet. This building is part of a future plan to ad a MATH HUB EXPANSION, and this building will be upgrade in it's entirety on the first floor during this process, but not the second floor - Curtis Davis Architect

- Restroom upgrades - $150,000 (3 restrooms @$50,000 each) – 2nd floor only
- New roof - $200,000
- INCLUDED AS PART OF MATH HUB UPGRADE - $2,500,000
- New elevator - $275,000
-HVAC Items: All items listed have past their life expectancy.

1st floor chiller	$310,000.00
2nd floor chiller	$310,000.00
46 – Fan powered units	$96,000.00
6 split systems	$85,000.00

The estimated cost to upgrade Building 7000 is $3,926,000

Bldg 900 (CDC): Built in 1998, has a square footage of 7,000 square feet. This building is in compliance with code and would need minor repairs, especially if preventive routine maintenance is performed on a regular schedule.

- New Roof - $75,000
- Restroom upgrades - $200,000 (4 in the bldg @$50,000 each)
- Replacement of VCT - $100,000

The estimated cost to upgrade Building 900 (CDC) is $375,000

Physical Plant: Built in 1983, includes the Maintenance Shop, has a square footage of about 7,300 square feet. This building is the main hub for the Physical Facilities Department, and is in need of upgrades. Under this department, the infrastructure and other disciplines will be included as outlined below as being part of the upgrades needed to be done.

- New Roofs, include Maintenance Bldg - $100,000
- Resurfacing Parking Lots A,B,C,D,E,F, G & in front of Campus - $2,000,000 (Guesstimate)
- Redesigning & installing new Parking Lot Lights for the ENTIRE campus - $1,000,000
- Restroom upgrades - $100,000 (2 in the bldg @$50,000 each)
-HVAC Items: All items listed have past their life expectancy.

Energy Management System	$6,000.00
Gas heat equipment	$8,000.00

The estimated cost to upgrade Physical Facilities is $3,214,000 (This does not include a new building being built in the rear of the campus)

Central Energy Plant: Built in 1981 as part of Bldg 5000 upgrade – has a square footage of about 2,580 square feet. This facility house the equipment for the HVAC System.

- New roof - $75,000

-HVAC Items: All items listed have past their life expectancy.

440-ton chiller/ cooling tower	$400,000.00
Pneumatic air system	$10,000.00
Heating system pumps and associated valves	$18,000.00

The estimated cost to upgrade Central Energy Plant is $503,000

Special Schools: Built in 1985, has a square footage of 4,000 square feet. The cost to maintain this facility is done thru Special Schools, but a roof replacement and miscellaneous items would not be part of the budget.

- New roof - $50,000
- New carpet/VCT - $50,000

-HVAC Items: All items listed have past their life expectancy.

5 split units/Energy management system	$67,500.00

The estimated cost to upgrade Special Schools is $167,500

Hartsville Campus: Built in 1984 has a square footage of 9,360 square feet. This building has had a few repairs on the interior but needs a new roof as well as cosmetic upgrades inside. The parking lot needs to be resurfaced as well.

- Resurface Parking Lot - $100,000
- New roof - $100,000
- Interior Upgrade - $100,000

-HVAC Items: All items listed have past their life expectancy.

6 split units	$70,000.00
Energy Management system	$15,000.00

The estimated cost to upgrade the Hartsville Site is $385,000

HSC: Built in 2001, has a square footage of about 95,000 square feet

- New roof - $100,000
- HSC Parking Garage:
- Lighting and power upgrade - $100,000

-HVAC Items: Estimate to retrofit existing equipment to bring up to like new equipment.

Addition of hot gas and fan cycling controls for the two make up air handlers on the 1st and 2nd floor.	$18,000.00

The estimated cost to upgrade the Hartsville Site is $218,000

Lake City Campus: Built in 1997, has a square footage 9800 sq feet, belongs to the City of Lake City

Mullins Site- Leased agreement with the City of Mullins

Greenville Technical College

Report on E & G Deferred Maintenance Plans 2007-08

As specified in the Calculation for E & G Deferred Maintenance Plans 2007-08 Report, CHE has used APPA standards to calculate the amount Greenville Technical College needs to spend per year just to maintain its investment in existing facilities. The calculation method included APPA standards for an acceptable building with a score of 90-100; an average 30 year life for building systems; and 3% of replacement value for maintenance. These expenses are estimated to provide general operational maintenance and do not necessarily address large deferred maintenance projects. Twenty buildings were identified in the same report as needing an additional $1.1 million per year for the next 20 years to address deferred maintenance issues that are already over the acceptable limit. Thus, the total the college should spend to protect its investment is estimated at $6.0 million per year.

Greenville County provides support to Greenville Technical College for the operation of the college campus and for capital expenditures. The support from the county is given to the college on a millage basis. For the budget year 2007-08, the estimated revenues from the county for operations is $6.5 million which is $1.9 million short of the projected operational needs for the upcoming year. Since there are no other funds available, student tuition will be used to supplement this shortfall.

The college uses the county funds for many expenses such as:

$2,800,000 for utilities, building insurance, data, classroom/office furniture and vehicles

$850,000 for security (salaries, fringe benefits and various operating expenses)

$2,100,000 for plant administration, custodial and grounds keeper salaries, fringes and related supplies.

After all of these operational expenses, the county funds actually provide approximately $750,000 for true facility maintenance. Approximately $670,000 will be used to employ fourteen full-time maintenance workers. The remainder ($80,000) is used for repairs, supplies and to contract jobs the college cannot self-perform. Even with these limited funds, the college has done a credible job in maintaining the college's 4 campuses and other facilities. The funds we have to spend however do not approximate the industry average of 3% and certainly do not include any funding for large projects. Historically, we have had to delay large projects until we can secure state bond funds. Our main campus is aging which is evidenced by the large number of buildings we have currently below the building code rating of 90. As our campuses and student body continue to grow, it is increasingly difficult to maintain acceptable standards for our students and faculty and staff.

The college has a strong desire to prevent the huge backlog of deferred maintenance reported by other institutions. One of the answers to preventing backlogs of deferred maintenance is to consistently perform adequate annual maintenance. We feel that we have the desire, the staff and the experience to keep up with the annual maintenance if we have the funds. However, we fear that we may not be able to even sustain the work we have been doing. The ideal situation would be a reliable, consistent flow of

funds from the state that would allow us to plan for adequate annual maintenance and to begin to tackle large projects in a systematic, cost efficient manner.

If the college receives annual state funding, our first large endeavor will be the HVAC systems in 5 buildings with a cost of approximately $1.2 million. Another high priority is the roof replacements on 4 buildings. We were able to replace the worst three roofs in the last two years with deferred maintenance funds from the state. It would be prudent to begin the planning process now to replace these roofs before they fail completely, but we cannot realistically do so without an infusion of funds.

We also need to replace the chill water lines across the main campus. We have had numerous failures and have abandoned and replaced several lines. The remaining lines across the campus continue to leak causing unexpected costs and the loss of air conditioning. The cost of replacing the PVC pipe with insulated steel pipe across the rest of the campus is $350K.

The door locks also need to be updated and keyed to provide maximum safety.

The main campus plumbing system is adequate for the time being, but it is over 40 years old. We have had periodic failures that have been addressed individually. The system itself however has never been upgraded. Service is still adequate, but an overhaul may be needed in the future. Again, planning now would be prudent if we had a reliable source of funds designated in the future.

1. Horry-Georgetown Technical College July 23, 2007
Kevin Brown
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20 Year Plan

2. Total needed per year to maintain and eliminate deferred maintenance $2,349,583

3-10. Buildings are listed in order of priority and questions three (3) through six (6) along with nine (9) and ten (10) are addressed in each section.

CONWAY CAMPUS

Name & # of Building	Major Function	Priority
Building 400 – Agriculture	**Academic**	**#1**
The building is not very energy efficient. All classroom doors open to the outside, there are cracks in the foundation and walls, doors have major wear and tear from the elements. The interior walls are portable which provides very poor acoustics and very little insulation from the elements. The plumbing and HVAC systems are very old and need to be replaced. The roof system is eleven (11) years old. There are some life safety issues as well.		

Name & # of Building	Major Function	Priority
Building 300 - Technology	**Academic**	**#2**
This is a very small building with only two exit doors. There are cracks in the foundation and walls, and when the water table is up, water will seep through the floor. The HVAC systems need replacing and new energy efficient lighting and acoustical ceiling tiles need to be installed and doors show major wear and tear and lack security. The electrical and plumbing systems are old and in need of replacing. Some life safety issues are present.		

Name & # of Building	Major Function	Priority
Building 200 – Main	**Academics**	**#3**
The building is not very energy efficient. The HVAC systems are original systems installed in 1966. The building is 68,000 square feet with only one boiler system and three cooling systems with each one operating only 1/3 of the building each. The maintenance department is continuously repairing the systems to ensure operating conditions. The window and entrance door systems are in dire need of replacement for energy and security purposes. The foundation has settled and some cracks in the walls are prevalent. The electrical and plumbing systems were also installed in 1966. The sewer lines are constantly clogging and the electrical needs updating. The roof was installed in 1996. Some life safety issues are present.		

Name & # of Building	Major Function	Priority
Building 500–Continuing Education	**Academics**	**#4**
This building is very small and is surrounded by water & glass and contains only two entrance doors. It has a chilled water system that cools four different buildings and the heating system is electric strip heat. The window system needs to be replaced & sealed. The interior walls are configured to make small classrooms. Some life safety issues are present.		
Name & # of Building	**Major Function**	**Priority**
Building 100-Administration	**Administration**	**#5**
This is a two-story building with major HVAC problems. The HVAC system is original (1977) and has problems keeping up. The window & entrance door systems need to be replaced for climate efficiency and security. The foundation has settled and walls are showing cracks in stairwells. The electrical & plumbing systems need upgrading. The roof was installed in 1996. There are some life safety issues.		
Name & # of Building	**Major Function**	**Priority**
Building 900-Faculty Offices	**Academic Offices**	**#6**
This is a small two-story building that was remodeled into faculty offices. The HVAC systems are heat pumps that control three to four offices per suite. The window system needs replaced and resealed. There are some life safety issues.		
Name & # of Building	**Major Function**	**Priority**
Building 600-Culinary Arts	**Academics**	**#7**
This is a small building used for Culinary Arts only. The cooling system is chilled water that operated four different buildings. The window systems need replaced for efficiency and the door system needs replaced for security.		
Name & # of Building	**Major Function**	**Priority**
Building 700-Lecture Hall	**Academics**	**#8**
This is a small classroom building. The cooling system is chilled water that operated four different buildings. The door system needs replaced for security. There are some portable walls in the interior wall systems. Electrical system needs an up-grade.		
Name & # of Building	**Major Function**	**Priority**
Building 800-Early Child Care	**Academic**	**#9**
This is a small building used for Child Care Development. The cooling system is chilled water that operates four different buildings. The interior wall system is very cut-up which causes classrooms & offices to be small. The window system needs to be changed for energy efficiency. There are two entrance doors that need to be changed for security reasons. The HVAC controls are fan switches that read Low & High, making heating and cooling control very inadequate. There are some life safety issues present.		

Name & # of Building	Major Function	Priority
Building 1000-AVX Technology	**Academic**	**#10**
This is a large three-story building. The window system is in very bad shape and the entrance door system needs replacing for security reasons. The foundation has settled and some cracks are showing in walls. The elevator system is original (1990) and the hydraulic seals are continuously being replaced in order to acquire LLR inspection. The cooling system is a water tower that is open to the environment. Life safety issues are present.		
Name & # of Building	**Major Function**	**Priority**
Building 1100-D. Kent Sharples Student Complex	**Student Support**	**#11**
This is a very large and fairly new building (2002). There has been some foundation settlement that has caused some cracking in the walls. The door system and interior wall system are starting to show wear and tear.		
Name & # of Building	**Major Function**	**Priority**
Building 1200-Maintenance Shop	**Staff/Storage**	**#12**
This is a metal building built in 1990. The roof system needs minor repair and the door systems could be changed for security purposes. There is no HVAC system in the shop area, only in the one office.		
Name & # of Building	**Major Function**	**Priority**
Building 1300-Maintenance Warehouse	**Storage**	**#13**
This is a metal building built in 1990. The roof system needs some gutter work and there is no HVAC system in the building.		
GEORGETOWN CAMPUS		
Name & # of Building	**Major Function**	**Priority**
Building 100 – Main/GTN	**Academic**	**#14**
This is a large building. The foundation has settled and cracking of the walls has taken place. The door system is not very efficient and is exposed to the elements. The window system is made up of single pane glass and is not very energy efficient. The elevator system is original (1977) and requires major repairs every year. The ceiling is in need of replacement and interior walls are showing wear and tear. The HVAC systems are electrical with electric heat strips which is very inefficient. There are some life safety issues present.		
Grand Strand Campus		
Name & # of Building	**Major Function**	**Priority**
Building 100–Criminal Justice/GSC	**Academic**	**#15**
This is a small building with a metal roof system built in 1992 which needs repair due to storm damage. The door system is a security issue and the window system is not energy efficient. The interior wall system is very tight allowing for small classrooms.		

Name & # of Building	Major Function	Priority
Building 200–Main Administration/Classroom - GSC	**Academic**	**#16**
This is a very large building. The roof system is metal and was built in 1995 and is in need of some repair. The heating system is radiator heat on the outside walls which is very inefficient. The window system contains single pane glass which is also very energy inefficient. The door system is old with wooden frames and the entrance doors need replaced for security purposes. The plumbing system needs upgrading and there are some life safety issues.		
Name & # of Building	**Major Function**	**Priority**
Building 300-Library/ Foundation/Bookstore-GSC	**Student Support**	**#17**
This is a small building with a metal roof system built in 1995. The window system is single pane which is not energy efficient. The foundation has settled and caused some cracking of the walls. The plumbing system is old and starting to back-up. The electrical system needs upgrading.		
Name & # of Building	**Major Function**	**Priority**
Building 600–Conference Center - GSC	**Continuing Education**	**#18**
The building has a metal roof system put on in 1995 that requires a good amount of preventative maintenance. The window system is single pane and is not energy efficient. The foundation is showing settlement which has caused some cracking in walls. The interior door system has wooden frames and doors are starting to show wear and tear. The electrical system needs up-grading.		

Northeastern Technical College (NETC)
Debbie Cheek
08/01/07

E & G DEFERRED MAINTENANCE PLAN

Northeastern Technical College replaced the roofs on the buildings at the main campus in 1999. This attributed to a large portion of our deferred maintenance. Due to the calculation method used by CHE, four buildings were identified for additional funding needed to eliminate deferred maintenance. Out of the four, three are mobile units that NETC obtained from the Center for Accelerated Technology and Training. These are temporary trailers; therefore, a limited amount of maintenance will be spent on these mobile units. The other building is used for storage and will be maintained as needed. The total amount needed per year to maintain and eliminate deferred maintenance for NETC is $580,410.

All three counties that we serve support the college financially. For the budget year 2007-08, the counties have reported that they will provide $685,000, which is $279,658 short of the projected operational needs for the upcoming year. Since there are no other funds available, student tuition will be used to supplement this shortfall.

The college uses the county funds for many expenses such as:
$421,000 for utilities, building insurance, HVAC maintenance
$85,000 for security
$53,000 for shipping and receiving
$406,000 for plant administration, maintenance, custodial and grounds keeper salaries, fringes and related supplies.

The college performs routine, annual maintenance consistently. However, if additional money was available, the college could address some of the issues reported in the CPIP: Dillon campus expansion; renovating the bathrooms; repairing the walkways; and main campus renovations.

The Dillon campus has reached capacity. The current building is only 4,200 square feet and includes classrooms that have a seating capacity of 12 students. The new building will have classrooms with a seating capacity from 20 students to 33. It will include a lab, which we currently do not have.

The bathrooms in several buildings at the main campus have not been renovated since the college was built. It has come to a time when renovations are necessary.

The walkways at the main campus are holding water and the roof edges are higher than the roof area itself. The cap is delaminating and the flashing laps are opening. If the problems are not corrected, the roof will completely rot. All buildings, except Ingram Hall (100), are affected, and the cost will vary by building.

The main campus renovations are several different cosmetic and replacement projects totaling $600,000. An example is the replacement of the windows. The windows in Ingram Hall need replacing due to age.

Orangeburg Calhoun Technical College

Report on E & G Deferred Maintenance Plans 2007-08

Contact: Retta C. Guthrie Vice President Business Affairs 803/535-1210

July 26, 2007

As specified in the Calculation for E & G Deferred Maintenance Plans 2007-08 Report, CHE has used APPA standards to calculate the amount Orangeburg Calhoun Technical College needs to spend per year just to maintain its investment in existing facilities. The calculation method included APPA standards for an acceptable building with a score of 90-100; an average 30 year life for building systems; and 3% of replacement value for maintenance. These expenses are estimated to provide general operational maintenance and do not necessarily address large deferred maintenance projects. Three buildings were identified in the same report as needing an additional $6,000 per year for the next 20 years to address deferred maintenance issues that are already over the acceptable limit. Thus, the total the college should spend to protect its investment is estimated at $925,733 per year.

As specified in the legislation that established Orangeburg Calhoun Technical College, both Orangeburg and Calhoun counties provide annual funds for the operation of the college campus. Each year the college requests funds from each county for general plant and security operations such as salaries, utilities, supplies, and contractual services. For the budget year 2007-08, the counties have reported that they will provide $1,910,154, which is $53,775 short of the projected operational needs for the upcoming year. Since there are no other funds available, student tuition will be used to supplement this shortfall.

During the upcoming year, the college estimates it will use the county funds as follows:

$465,000 for utilities, phone, building insurance, data, classroom/office furniture and vehicles
$341,000 for security (salaries, fringe benefits and various operating expenses)
$551,000 for plant administration, custodial and grounds keeper salaries, fringes and related supplies.

After all of these operational expenses, the county funds actually provide approximately $550,000 for true facility maintenance. Approximately $265,000 will be used to employ six full-time maintenance workers. The remainder ($285,000) is used for repairs to buildings, supplies and to contract jobs the college cannot self-perform. Even with these limited funds, the college has done a credible job in maintaining the 100 acre campus. The funds we have to spend however do not approximate the industry average of 3% and certainly do not include any funding for large projects. Historically, we have had to delay large projects until we can secure state bond funds. Our campus is aging which is evidenced by the large number of buildings we have currently at or near the building code rating of 90. County funds are becoming more constrained and it is increasingly difficult to maintain acceptable standards for our students and faculty and staff.

The college has a strong desire to prevent the huge backlog of deferred maintenance reported by other institutions. One of the answers to preventing backlogs of deferred maintenance is to consistently

perform adequate annual maintenance. We feel that we have the desire, the staff and the experience to keep up with the annual maintenance if we have the funds. However, we fear that we may not be able to even sustain the work we have been doing. The ideal situation would be an additional flow of funds from the state that would allow us to systematically plan for and provide adequate annual maintenance and to tackle large projects in a cost efficient manner.

If the college receives annual state funding, we would immediately embark on several projects. The first large endeavor will be the roofing project that has been identified on the CPIP for the last four years. We were able to replace the worse three roofs last year with state deferred maintenance funds. There are, however 11 roofs remaining that are over 20 years old and rapidly approaching the end of life. Our first replacement would be the "K" building which houses our Health Science programs. We have been patching this roof (and others) for several years; however, this is certainly not a viable long-term approach. It would be prudent to begin the planning process now to replace these roofs before they fail completely, but we cannot realistically do so without an infusion of funds.

We also need to begin a systematic replacement of doors, locks and other hardware in 12-15 classroom and administrative buildings across campus. Most of these buildings are over 40 years old and are beginning to show their age. Other more immediate needs have always been the priority and now it is past time to address the state of the entries. The door locks need to be updated and keyed to provide maximum safety. We have investigated key card systems but have found them too expensive to undertake without additional funding.

The campus plumbing system is in basically decent shape, but the majority of it is over 40 years old. We have had periodic failures that have been addressed as required for specific locations. The system though has never been upgraded. Service is still adequate, but an overhaul may be needed in the future. Again, planning now would be the prudent course if we knew we had a reliable source of funds designated for future use.

To make headway in curbing ever-rising utility bills, we have begun a study of energy usage. Our initial review indicates that we could benefit from the installation of a header system for three existing chillers. This system would ideally monitor and regulate the energy production system as well as provide redundancy capabilities during emergencies. Preliminary studies indicate that the most cost-effective use of this system would require it to be installed prior to the replacement of the Health Sciences Building chiller. This chiller is over 20 years old and should be replaced in the near future.

We have also identified a need to upgrade our records storage area. Many files are now stored electronically, but there are still files of hard copy records that need to be retained and maintained in a safe environment. The main renovation we need is to add a fire- suppression/ alarm system to the building. Other minor enhancements can be added with current funds.

Piedmont Technical College

E & G Deferred Maintenance Plan

2007 – 2027

Submitted By: Dale Wilson

Director - Facilities Management

Piedmont Technical College

E&G Deferred Maintenance Plan

Index

Piedmont Technical College

Facilities History

The college was founded in 1966. Piedmont Technical College is a two year post secondary institution which contributes to the economic growth and development of the largest and most diverse region of the technical system. Counties in the Piedmont service area include Abbeville, Edgefield, Greenwood, Laurens, McCormick, Newberry and Saluda. Piedmont has established facilities in all seven counties. All facilities total 491,884 sq. ft. and 40 buildings.

The Lex Walters Campus, located in Greenwood, is the largest campus which consists of 24 buildings totaling 390,336 sq.ft. The buildings age range from seven to forty years old. Building conditions score range from 65 to 98.

Abbeville County Center was established in 1996. Two of the buildings are owned by a lease holder and four mobile classrooms are owned by Piedmont Technical College Foundation. The total facility consists of 5,700 sq. ft. Building condition core of 70 indicate serious deferred maintenance needs. All leased and owned buildings and parking facilities are old and in need of repair.

Edgefield County Center was established in 1999. An existing building was renovated into a state of the art educational facility. The building totals 9000sq. ft. A second building was renovated to allow additional training facility adding another 10,000 sq.ft. The building condition score average is 90.

The Laurens County Higher Education Center was built in 2003. The facility houses and supports three educational agencies; Piedmont Technical College, USC Union and Laurens Life Long Learning. The center consists of 40,000 sq.ft. and 25 acres. The building condition score is 95. The facility is in good condition at this time.

McCormick County Center was established in 1998. The facility is a leased building uniquely known as a “log cabin”. The building consists of 2,248 sq.ft. The building is old and in need of immediate repair. The building condition score is 58.

The Newberry County Center consists of 30,000 sq. ft.. Originally the building was built and served as a National Guard Armory training facility. Newberry County and Piedmont Technical College renovated the facility in 1996 to be utilized as an educational center. The building condition score is 81. The facility needs some deferred maintenance repair and code updates.

Saluda County Center was established in 1997. Saluda County owns the land and one building. The college owns the other three mobile classrooms. The facility consists of 4,800 sq. ft. The building condition score is 78. The leased building is old and needs some repair. The mobile classrooms are in good condition but need some code upgrades.

The college Facilities Master Plan provides a method and direction for future facilities / construction and renovations. The plan illustrates a guide for construction, renovation and parking facilities phases.

The first phase includes new construction and renovations for the Nursing / Health building, Business Industry Technology Building / renovations, Abbeville County Center, Saluda County Center, McCormick Center, addition to the Multi Purpose Building and a deferred maintenance project.

Phase II includes General Education Building addition, Newberry renovations, new Laurens Center Educational Building and facilities parking improvements.

Phase III includes Business Education Building addition, Central Energy upgrade, Student Activities field, new Student Center and a new Edgefield Center Education Building.

Phase IV plans show a second addition to the Multi Purpose Building, New Technology Building, addition to the Library, a new Classroom Building with associated student parking.

Phase V concludes the facilities master plan with a crossover road, Communications Building, renovations to the V – Continuing Education/ Funeral Service Building and Moss Industrial Park.

The College Facilities Master Plan provides guidance for new construction, renovations and land improvements for the next one to twenty years.

The College mission statement enforces the efforts, attempts and actions to “Ensure that college facilities and infrastructures are current and maintained at a level that supports the needs of an increasingly diverse student population”.

Proposed 1 through 20 Year Plan – E&G Deferred Maintenance Projections & Building Use

This summary of projections is based on current and long range deferred maintenance needs. Each building is unique and has defined disciplines that must be addressed immediately or on schedule bases.

Each building will show the elements of deferred maintenance disciplines by estimated cost values. Most of PTC's building estimates show a very similar comparison to the CHE "total need per year to maintain and eliminate deferred maintenance document. Some vary from the document due to "high cost items" that must be addressed in the first year.

The college proposes an allocation of $311,802 per year for deferred maintenance needs. It is very obvious the college will not be able to eliminate the estimated $1,608,443 *plus* deferred maintenance needs based on the building conditions and allocated funding. (*As shown on the spread sheet, leased buildings are not listed as part of the CHE total calculations*). PTC is well aware of the need to address aging non functional building deficiencies. Due to a lack of county and state support, it is impossible to guarantee total elimination of deferred maintenance for all buildings.

Building Evaluation

Deferred Maintenance will be scheduled for the following buildings within year 2007 through 2027. Repairs, replacements and installations will be based on funding and building conditions. The college used several methods to collect this information. Neal Prince and Partners, McMillan Smith and Ass., Curt Davis and Ass., Davis Floyd and Ass., Robert Davis Environmental Inspections / Testing, Greenwood Metropolitan District and State Energy Office helped the college establish goals, performed inspections and created facility site observations. Building envelope, updating aesthetics, investing and implementing energy initiatives, addressing environmental concerns , replacing equipment, code compliance, age and boosting occupants safety and comfort levels is some of the

criteria used to analyze facility deferred maintenance needs. Findings from the outside sources include HVAC, mechanical, electrical, code, enviromental issues, structural problems, roof, air quality and general deferred maintenance needs such as paint, carpet and ceiling.

The list below will reflect the building use.

A -Administration Building: Administration /Academic / lab/ shop.

B- Continuing Education Building: Academic / Support

C-Conference Center: Academic / Support

D - Canteen: Student Support / Auxiliary

E – Engineering: Academic / labs

F – General Education: Academic / Bookstore (auxiliary)

G – Business Building: Academic

H – Health Science: Academic / labs

J- Main Boiler: Support (facilities)

K- LRC/ Library: Academic / Library

L – Industrial Training: Academic / Lab

M – Auto/ Maintenance: Academic/ facilities management/labs/ support

N – Multipurpose: Student services / academic

P – Picnic Shelter: Student services / Continuing Education

Q- Warehouse: Support

R – Building Construction: Academic / lab

S- Health Science: Academic / lab

V – Kateway Building: Academic /lab

X- Lusk Warehouse: Support

G/H – Horticulture: Academic / lab

LCHEC- Laurens Higher Education Center: Administrative/ academic/ support/ community

QQ – Warehouse: Support

SS- Saluda County Center: Academic/ administrative/ support

EE – Edgefield County Center: Amendment/ administrative/ support

G/A – Greenwood Annex: Academic/ administrative /lab

AA- Abbeville County Center: Academic/ administrative/ support

MM – McCormick Center: Academic/ administrative/ support

Academic/ administrative/ support

NN- Newberry County Center: Academic/ administrative/ support /lab

Building Assessment summary per deferred maintenance elements.

The spread sheet below will illustrate two cost estimates for the Lex Walters Campus and County Center. Year (1) one will represent cost associated with each building. The projections and assigned disciplines are based on building age, life safety issue, usability and functionality, code conditions, equipment and materials products. Year one also provides a comparison of funds for deferred maintenance verses the calculated estimates developed by the CHE E&G maintenance and elimination- per year recommendations.

Year (20) twenty represents the amount of funds it would take to keep the buildings functional and in good condition. The projections are based on replacement cost, inflation and product availability. Unfortunately it is and will be impossible to follow or give a "solid" cost estimate as to what building construction or equipment cost will be twenty years out. The estimates exemplified in this document consider building age, design methods, code changes and building / equipment longevity.

See Worksheet – Elements for Deferred Maintenance (next 3 pages)

College initiatives to Fund Deferred Maintenance

Needs – one to twenty years.

Piedmont Technical College is committed to supporting deferred maintenance needs. Many options will be implemented to provide the necessary but limited funding. Initiatives such as grants, foundation support, student revenues, county capital funds, college building fund, state bonds, energy rewards and special allocations will be used to satisfy the immediate and future demands.

The college will make a faithful effort to appropriate $276,400 per year for the Lex Walters Campus and $35,402 for the County Centers. The funds will be allocated directly to deferred maintenance needs.

A major portion of the funds will be contributed to the replacement of obsolete / non efficient - functional equipment and programmed repairs. A "budget" is the foremost component in the deferred maintenance programs. Because of the lack of funding in many cases, the college is forced to prolong the agony and implement a **bandage fix**. This constant battle causes an ongoing hardship for the user and maintenance department. Eventually the worn equipment will advance to either total malfunction or failure causing hazards and unhealthily conditions which will result building closure or unusable sq.ft.

Ongoing initiatives are implemented yearly to support energy saving. In many cases deferred maintenance contributes to the effort. Grants are used to replace deferred maintenance scheduled equipment. This is a "***win win"*** scenario for the college and the state. New energy efficient equipment provides a fast pay back and savings which equates into dollars that can dedicated to deferred maintenance.

"Piedmont will continue to make every effort to satisfy as many deferred maintenance repairs/ replacements and upgrades per the budget allocations."

As stated in the college Facilities Master Plan, many deferred maintenance projects will be addressed in scheduled building renovations. The action will return a facility to normal operations, stop accelerated deterioration, eliminate inflation of materials and equipment and correct life safety hazards. The suggested

renovations were submitted in the 2008 CPIP Year two and three plan.

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Even though a commitment of $311,802 a year is budgeted for deferred maintenance projects the CHE suggested cost of $1,608,443 (plus) will continue to overshadow the repair efforts. Unless some type of state support is implemented to assist with building longevity and functionally, facilities deferred budgets will continue to grow due to age, use and normal wear and tear. Most educational buildings are designed with a 30 to 50 year life expectancy and equipment varied from a one to 20 year usable life cycle.

Piedmont Technical College Priorities for the first year of the deferred maintenance plan and why.

The college will set priorities by using defined criteria's such as life safety issues, building components and equipment age, compliance mandates , wear and tear , functionality and building / equipment life cycles. *If you defer maintenance you can expect future expenses to be much greater. Our ability to maintain a reliable building and its systems to support the college's needs is a priority!*

Disciplines by Priority:

- Life Safety / Environmental /Code issues.
- Air quality and occupant comfort via Mechanical / HVAC system.
- Roofs
- Electrical Systems
- Plumbing
- Exterior walls / Interior walls/ Building Hardware and Design

Allocations will be appropriated by a yearly master plan for deferred maintenance actions. This plan is reviewed and approved by the college President and Senior Vice President for Finance. The Piedmont Technical College Area Commissioners are also briefed on the process and actions.

SPARTANBURG COMMUNITY COLLEGE
ANNUAL E & G DEFERRED MAINTENANCE PLANS 2007-08

Spartanburg Community College currently maintains 196 acres on the central and two satellite campuses. The buildings on our campuses vary in age from 1 to 42 years. Using CHE's calculations for E & G deferred maintenance; we have identified 10 of our facilities as being under the acceptable level. The calculations also reveal that the total amount of funding needed to eliminate deferred maintenance needs of the college to be $2,525,316 per year, above what the College is currently able to budget.

The college has been aggressive in renovating buildings in order to maintain and meet the needs of the college's constituents. For the budget year 2007-08, the college will receive a total of $ 4,864,253 from Spartanburg and Cherokee counties. Within this appropriation, the county has provided one-time funds of $1 million for renovations at the Tyger River Campus. The remainder of the funds will be used to cover operational expenses of approximately $447,786 on the Tyger River Campus, $736,923 on the Cherokee Campus and $2,018,763 on the main campus. This leaves an estimated $660,781 to cover maintenance annually. The available college funds do not meet the required average industry standard of 3% annually.

The college's maintenance department has the responsibility of operating, repairing, and maintaining the buildings and grounds. We accomplish this task with a staff of skilled trades workers and groundskeepers, and a director supported by clerical staff. We have planned work activities that reoccur on a periodic cycle to sustain the serviceable life of our facilities. Typical projects include painting, cleaning, and replacement of luminaries, pump and motor replacement. While we realize that continued deferment of maintenance will result in deficiencies, lack of funding precludes us from completing these projects. This problem cannot be eliminated until ongoing building maintenance is adequately supported and funding is provided to address these issues. As revealed in the calculations for E & G Deferred Maintenance, cost can be considerably higher when the work cannot be completed in a timely fashion.

With established priorities to ensure that funds are used for the most urgent deferred maintenance, the college continues to fall behind with its plan to maintain existing facilities in acceptable condition. We hope with a concerted effort by CHE to fully fund the annual maintenance plan, we can prevent deterioration of these capital assets.

As the upstate of South Carolina moves away from textile manufacturing jobs, Spartanburg Community College has an opportunity and obligation to help the individuals in our service area upgrade their educational level and job skills. To match the educational needs of business and industry, we have identified the following projects, in the priority listed, if funds become available:

A. Tracy Gaines Learning Resource Center

This project is to renovate 16,409 sq. ft. of the 32,000 sq. ft. facility into classrooms, computer labs, conference rooms and administrative offices specifically for use by the Continuing Education Division. The building was constructed in 1980 to house the college library, bookstore and media center. The College recently constructed a new library this spring. Our plans include hiring an architect to redesign the space, have the roof replaced, and bring the library section of the building up to code standards at an estimated cost of $1.6 million dollars. Continuing education currently uses classrooms and conference rooms located in a variety of buildings across campus. The size and location of this building make this space ideal for continuing education.

B. Chilled Water Lines

As facilities continue to age, the mechanical systems in these facilities are exceeding their useful lives. The infrastructure within our facilities, such as heating, air conditioning systems, roofing, are aging. Our campus has chilled water lines located between the East and Ledbetter buildings that must be replaced. The approximate cost to complete this project is $155,000.

C. East Building

The East Building is the oldest building on our campus, built in 1963. The building has approximately 82,000 sq. ft. of space. Renovations are estimated to cost $4,920,000. The East Building was originally built to house industrial and manufacturing classes and labs. A section of this facility needs to be retrofitted to allow for AA/AS program classrooms and laboratories. To serve this growing need for classroom space the building must be modified and upgraded to a state-of–the-art facility.

D. Industrial Training Facility

The Industrial Training Facility constructed in 1981, houses the welding and Ford Asset programs. This 19,150 sq. ft. building still has its original roofing system. This roof system has exceeded its useful life and needs to be replaced at an approximate cost of $90,000.

E. West Building HVAC

The HVAC system in the West building is inefficient and independent of the campus energy system. This system is old and not compatible with the main energy system used in other buildings on the main campus. This has resulted in greater maintenance costs and lack of back-up support from the other facilities. In 2006, State Life Sciences deferred maintenance funds were used to renovate and upgrade the HVAC in the D wing of this building. The remaining sections of the building still need to have the HVAC systems replaced. The projected cost of this conversion is $950,000.

F. Energy Management/HVAC Upgrades

We currently have two buildings on our campuses that need HVAC upgrades to reduce the high cost of maintenance. The service life of the units is exhausted and they need to be replaced. The Ledbetter building was built in 1966 and consists of 48,100 sq. ft. The digital controls to operate 1-4 air handler units' needs to be replaced at a cost of $90,000.

The BMW Training Center is a 41,250 sq. ft. facility, located on the Tyger River Campus. The original 1988 HVAC units have never been upgraded and need to be replaced at an estimated cost of $200,000.

G. Resurface Parking Lots & Campus Drive

Campus parking and drives are in need of resurfacing. The areas in need of immediate repaving include the Ledbetter building parking lot, the main campus drive, Horticulture drive, and the BMW Training Center parking lot and drive. It will take an estimated $160,000 to repave the drives and parking lots.

The projected cost for each project is an estimate of the Physical Plant Staff, based on other recent projects. The rationale used in setting our list of priorities is based on sound planning. The priorities maybe influenced by many changing factors such as service need, available resources, legal mandates, age and condition of existing buildings and health and safety considerations.

PHYSICAL PLANT AND GROUNDS

DEFERRED MAINTENANCE PLAN

Prepared by:
J. Clyde Hincher
Vice President for Finance
July 27, 2007

INTRODUCTION

The Physical Plant Division at Technical College of the Lowcountry (TCL) has the responsibility of maintaining existing facilities and providing new facilities for instruction and other functional areas that provide services in support of the mission of the College. The staff also provides direct support for all programs offered by the college. The Physical Plant staff supports three campus locations which include 21 buildings and 114 acres of grounds.

A brief description of the College's resources available to address maintenance of facilities follows:

MAINTENANCE STAFF

The maintenance staff consists of the Physical Plant Director, one Trades Craftsman, and five Trades Specialists.

CUSTODIAL STAFF

The current Custodial Staff consists of a Custodial Supervisor and six Custodial Workers.

OUTSOURCING SERVICES

The College relies heavily on outside service providers for routine maintenance of physical facilities. Major categories of outsourcing include grounds maintenance, energy management systems, fire and elevator maintenance, and building and infrastructure repairs and maintenance projects to large to be accomplished with TCL staff.

ANNUAL BUDGET

The operating budget for the physical plant division over the most recent three year period has averaged about $1,900,000 and represents almost 14% of the College's unrestricted operational budget. The amount of funds budgeted to direct maintenance of buildings has averaged about $435,000 per year. Although the counties in TCL's service area are not legislative mandated to support the physical plant operations, as is the case with most of the Technical Colleges, TCL does receive general support from three of the four counties and does have plant support as part of the state allocation to the College. In addition to these fund sources, the College designates a portion of the student tuition as "capital fees," and part of these funds are used for small projects that address deferred maintenance problems relating to both buildings and infrastructure.

PROGRAM-DEFERRED MAINTENANCE

The College plan for addressing the more than $3 million in deferred maintenance is three-fold:

- Routine maintenance and repair issues will be addressed with existing staff and with funds provided in the Colleges annual operating budget.
- Student Tuition Capital Fee funds will be used to address small projects designed to reduce deferred maintenance.
- The College will seek State and grant funding to address the major deferred maintenance projects as identified in the current and future Master Facilities Plan and reported in the Comprehensive Permanent Improvement Plan (CPIP).

Although TCL has a relatively small Physical Plant staff, with some support from contract services and using annual budgeted funds, they are able to accomplish the routine maintenance and repairs such as minor plumbing, electrical, mechanical and carpentry to keep the buildings in good functional condition. Small construction projects are used to address some of the larger repair projects through use of independent contractors.

The College is making progress in addressing the deferred maintenance issues. With the recent Supplementary Deferred Maintenance funds and Research University Infrastructure Bond funds provided by the State, TCL restored the interior of Maclean Hall Building to "like new" condition and replaced its aging HVAC units. The College has also completed interior and exterior renovations on Building 14 to convert it from an Automotive Shop Building to a state of the art electronic building and completed renovations on one floor of Building 10 to construct new science labs. This project was made possible with State Group 38 Capital Improvement Bond funds. A project is now in progress to raze the old Wildy Gymnasium, Building 5, which has been out of service for several years to establish much needed parking for Beaufort's East Campus. Other projects addressing infrastructure needs are in the planning and approval stages for the Beaufort Campus include an erosion control project, a landscaping project and a parking lot restoration project. These projects will be funded with existing local and capital fee funds. The highest priorities of the College in addressing deferred maintenance are the Capital Projects as outlined in the current CPIP document.

A summary of TCL's Deferred Maintenance Plan with major projects listed is included in Table I. A large part of the $2,239,313 in deferred maintenance, as calculated in the CHE Deferred Maintenance Report (See Appendix) is related to buildings that require major renovations. In addition, the College has an additional building (Building 8) that is out of service and is not included in this total. The cost to restore this historic structure will exceed $2 million and is included in Year 2 of the current CPIP.

TABLE I : DEFERRED MAINTENANCE PLAN

Bldg Name	Bldg ID	Amount to Eliminate	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20
Owen Hall	1	$69,019	69,019	69,019	69,019	69,019	69,019	69,019	69,019	69,019	69,019	69,019	69,019
Coleman Hall	2	$91,267	91,267	91,267	0	0	0	0	0	0	0	0	0
CPIP Renov Project 2				X									
Anderson Hall	3	$11,462	11,462	11,462	11,462	11,462	11,462	11,462	11,462	11,462	11,462	11,462	11,462
Health Science Building	4	$0	0	0	0	0	0	0	0	0	0	0	0
Administration Building	6	$0	0	0	0	0	0	0	0	0	0	0	0
General Education	9	$20,641	20,641	20,641	0	0	0	0	0	0	0	0	0
CPIP Renov Project 2				X									
General Ed/Cosmotology	10	$61,041	61,041	61,041	0	0	0	0	0	0	0	0	0
CPIP Renov Project 2				X									
Security Building	11	$752	752	752	752	752	752	752	752	752	752	752	752
MacLean Hall	12	$0	0	0	0	0	0	0	0	0	0	0	0
Special Schools	13	$3,445	3,445	3,445	3,445	3,445	3,445	3,445	3,445	3,445	3,445	3,445	3,445
Electronics/Computer	14	$0	0	0	0	0	0	0	0	0	0	0	0
HVAC/Industial Tech	15	$270,139	270,139	0	0	0	0	0	0	0	0	0	0
CPIP Renov Project 1			X										
Building Construction	16	$519,497	519,497	0	0	0	0	0	0	0	0	0	0
CPIP Renov Project 1			X										
Maintenance Office	19	$0	0	0	0	0	0	0	0	0	0	0	0
Administration Building	22	$54,958	54,958	54,958	54,958	54,958	54,958	54,958	54,958	54,958	54,958	54,958	54,958
Conference Building	23	$0	0	0	0	0	0	0	0	0	0	0	0
Education Building	24	$9,319	9,319	9,319	9,319	9,319	9,319	9,319	9,319	9,319	9,319	9,319	9,319
Warehouse	26	**$43,706**	43,706	43,706	43,706	43,706	43,706	43,706	43,706	43,706	43,706	43,706	43,706
Hampton Center	32	$111,523	111,523	111,523	0	0	0	0	0	0	0	0	0
CPIP Renov Project 2				X									
New River Campus	50	$0	0	0	0	0	0	0	0	0	0	0	0
Total		$1,266,769	$1,266,769	$477,133	$192,661	$192,661	$192,661	$192,661	$192,661	$192,661	$192,661	$192,661	$192,661

PROJECTED FUNDING

Project	Buildings	Funding Source	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20
Project 1	15,16	State CIB *	789,636										
Project 2	2,9,10,32	State CIB *		284,472									
Various Samll Projects	Various	Capital Fee **	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000

* Amount reflects only the deferred amount to eliminate. Actual CIP request includes funds for "like new" status and improvements.

** Amounts shown is projected capital fee revenues net of amounts required for debt services and includes both building and infrastructure funding.

Funds are not currently available for the three major capital renovation projects either through the normal operating budget or capital fee process. The College is currently seeking state Capital Improvement Bond funding for each of these projects. Other avenues are also being explored, but thus far no funding commitments are in place for any of the major projects.

As Table I indicates, funding that would allow for completion of the two major CPIP renovation projects would reduce the amount of the deferred maintenance to a manageable level for the College. Capital Fee funds exceeding debt service requirements and infrastructure needs can be applied to small renovation projects to gradually reduce the deferred maintenance over the next ten years and thereafter, to accomplish building and infrastructure improvements. This, of course, assumes that sufficient operating dollars are available within the operating budget to address the current maintenance needs at the APPA 3% investment level needed to avoid further accumulation of deferred maintenance. It should also be noted that without the funding to accomplish the existing deferred maintenance projects, the available capital fee funds will

necessarily be consumed in addressing major maintenance and repair issues and the amount of deferred maintenance will continue to increase.

A brief description of the major renovation projects that make up a large portion of TCL's deferred maintenance follows.

Project 1-Buildings 15 & 16 Renovation (CPIP Year 2-2008-9)

The project addresses extensive interior and exterior renovations to both Buildings 15 and 16. The early 1970's shop buildings have metal exteriors that have rust penetration and are in need of complete renovation in order to continue to provide adequate space for the College's industrial programs. In addition to replacement of the exterior walls, electrical, plumbing, floor and ceilings systems require modernization. Unused laboratory spaces will be converted to usable classroom space. (Estimated Cost, $2,751,300)

Project 2-Buildings 2,9,10 & 32 Renovation (CPIP Year 3-2009-10)

The project addresses deferred maintenance in four buildings to include interior renovation needs for classrooms, academic support offices and restrooms. The work includes modernization of electrical and plumbing systems, painting and replacement of floor and ceiling systems. (Estimated Cost, $1,595,000)

The College's project list also includes a planned project for complete renovation of Building 8, Moor Hall which has been removed from service because of its deteriated condition. Because of its historical significance to the Mather School, the 1939 vintage structure will be restored to provide usable administrative and instructional space rather than replacing the building.

CONCLUSION

TCL will continue to maximize use of available funds to address the facilities needs of the College. The Deferred Maintenance Plan outlined provides a systematic approach that can be effective in eliminating the deferred maintenance at the College. The success of the College in achieving any real progress toward resolving the deferred maintenance problem, however, hinges on obtaining funding for the major renovation projects as included in the current CPIP as well as continuation of support that allows the College to maintain the Annual Investment Requirement necessary to prevent further accumulation of deferred maintenance.

APPENDIX

Calculation for E&G Deferred Maintenance Plans

Source: Building Condition Survey - 2007 Update & 2007 Annual Property Improvement Report

E&G Facilities

TC of the Lowcountry	CHEMIS RCB	CHEMIS Bldg. Condition Code[1,2]	Amount to Bring to Like-New Condition	Annual Investment Required to Maintain (APPA Avg. 3%)	Acceptable Amount of Deferred Maintenance (APPA Std.)	Magnitude of Deferred Maintenance (Assume 33 yrs.)[3]	Deferred Maintenanc Eliminat
				RCB * (APPA Avg)	10% of RCB - Col. 4	Col. 3 - (Col 1* 3%)	Col. 6 - Col
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Owen Hall	$766,878	81	$145,707	$23,006	$53,681	$122,700	$69,019
Coleman Hall	$3,042,244	87	$395,492	$91,267	$212,957	$304,224	$91,267
Anderson Hall	$573,093	88	$68,771	$17,193	$40,117	$51,578	$11,462
Health Science Building	$2,789,300	97	$83,679	$83,679	$195,251	$0	$0
Administration Building	$859,139	93	$60,140	$25,774	$60,140	$0	$0
General Education	$1,032,066	88	$123,848	$30,962	$72,245	$92,886	$20,641
General Education/Cosmotology	$2,034,708	87	$264,512	$61,041	$142,430	$203,471	$61,041
Security Building	$15,037	85	$2,256	$451	$1,053	$1,804	$752
MacLean Hall	$4,115,315	95	$205,766	$123,459	$288,072	$0	$0
Special Schools	$114,819	87	$14,926	$3,445	$8,037	$11,482	$3,445
Electronics/Computer	$2,099,865	98	$41,997	$62,996	$146,991	$0	$0
HVAC/Industial Technologies	$2,077,989	77	$477,937	$62,340	$145,459	$415,598	$270,139
Building Construction	$2,077,989	65	$727,296	$62,340	$145,459	$664,956	$519,497
Maintenance Office	$347,971	99	$3,480	$10,439	$24,358	$0	$0
Administration Building	$499,616	79	$104,919	$14,988	$34,973	$89,931	$54,958
Conference Building	$310,641	94	$18,638	$9,319	$21,745	$0	$0
Education Building	$310,641	87	$40,383	$9,319	$21,745	$31,064	$9,319
Warehouse	$109,265	50	$54,633	$3,278	$7,649	$51,355	$43,706
Hampton Center	$1,239,145	81	$235,438	$37,174	$86,740	$198,263	$111,523
New River Campus	$5,451,000	100	$0	$163,530	$381,570	$0	$0
	$29,866,721		**$3,069,818**	**$896,002**	**$2,090,670**	**$2,239,313**	**$1,266,76**

Williamsburg Technical College

Calculation for E&G Deferred Maintenance Plans 2007

As reported by CHE Williamsburg Technical College's need for Deferred Maintenance is approx. $450,099.00 annually. These figures meant to address normal operating and deferred maintenance issues but do not include funds for large scale needs of the college. We have identified several increasingly pressing projects that the college will need to undertake in the very near future.

1. The college's HVAC units are over 20 years old and will soon need to be replaced. Estimated cost of $300,000.00+.
2. The college's parking lots are in dire need of resurfacing and our visitor parking lot needs to be expanded. Estimated cost of $145,000.00+/-.
3. The college's electrical infrastructure will have to be addressed. Estimated cost of $50,000.00+/-.
4. The college's acoustical ceiling system has to be revitalized or replaced due to discoloration over time. Estimated cost $20,000.00+/-.
5. The college's window system needs to be replaced. They are thirty+ years old and are discolored and not energy efficient.
6. The college's door system and the mounting hardware needs to by replaced due to age and security. Estimated cost $40,000.00+/-.
7. The college's Fire/Security and alerting system needs to be upgraded. Recent events have alerted us to the need for a better system equipped with cameras, and campus wide communicating capabilities.
8. The college's Student Center area needs to be completely renovated. Estimated cost $60,000.00+/-.

This list is just some of the more pressing issues that have been discussed by college personnel. Due to the age of the various systems Williamsburg Technical College's deferred maintenance needs are substantial but necessary in an effort to promote a proactive and progressive learning environment for our students. With our increased partnering with the counties K-12 system the college's deferred project list will increase in the near future. This is our second school year that we have focused on providing technology training to the high school aged students and we are starting to feel the pinch for utilizable space for classes, offices, and building operational services. We will have to look at reconstructing/reconfiguring existing space for immediate need in these areas.

York Technical College
Contact: David LeGrande

Buildings Less Than 90%	CHEMIS Condition Code All Buildings Below 90%	Amount to bring to Like New Condition	Building Function	Potential External Influences	Life / Safety Issues ADA Compliance Issues	Process for Determining Replacement Cost of External Infrastructure	Process Used to Determine the Cost of Bringing the External Infrastructure to Like New Cond.	Top 3 Priorities
BCAS Building (A)	82%	$2,394,000.00	Academic	None	Indoor Air Quality ADA	None Required	N/A	3
Industrial Building (D)	88%	$419,869.00	Academic	None	Indoor Air Quality Roof Leaks ADA	None Required	N/A	2
Truck Drive Training Building (P)	66%	$601,902.00	Academic	Off-Campus Facility In Revitalized Neighborhood By the City of Rock Hill	Numerous Code Issues, Indoor Air Quality, ADA, Deteriorated Condition	The External Infrastructure was Studied by a Local Engineering Firm	Engineering Study Cost Approximately $150,000.00	1
Averages / Totals	79%	$3,415,771.00						